Questions 1to 6 are based on the following information

Article | Weekend Conferences

The expenses related to sponsoring a conference can be immense. An organization sponsoring a conference can recoup these expenses through registration fees and partnership with the host hotel. As part of the partnership, the host hotel sets aside a block of rooms for conference attendees, with rooms available at a slightly higher-than-normal rate.

While most conference attendees prefer to stay in the host hotel, they often follow an alternate strategy to avoid the extra cost of reserving a room within the block at the host hotel. Some attendees reserve rooms outside the host hotel—the ROHH strategy. Others reserve rooms outside the block—the ROB strategy.

Conference sponsors have succeeded in countering these strategies by increasing the conference registration fee by a fixed amount and then offering an equivalent registration fee discount to attendees who book rooms in the block. A study has shown that if this registration discount is equal to at least half the potential savings of an attendee's particular cost-saving strategy, the attendee is much more likely to reserve a room within the block.

Article | Weekend Conferences

Ten conferences are scheduled for the same weekend in City X. For each conference, the table lists the conference sponsor, the registration fee, the discounted registration fee (if any), the host hotel, the rate for rooms in the block at the host hotel, and the lowest rate for an available room in the host hotel during that same weekend. Conference attendees will require two nights lodging, and all room rates are per guest, per night, assuming two guests per room. The lowest rate for an available room in City X on this same weekend is $65.

Sponsor	Registration fee	Discounted registration fee	Host hotel	Block rate	Lowest rate in host hotel
AMG	$225	$150	Garden Inn	$120	$65
CC	$720	$620	Hilton	$110	$70
CDA	$450	$400	Asiawest Center	$190	$185
FFNA	$325	$275	Hilton	$140	$70
HMHPA	$600	$575	Holiday Inn	$104	$79
PPOA	$550	$400	Hilton	$105	$70
PNDA	$425	$400	Bard Inn	$125	$125
QRTA	$325	no discount	Asiawest Center	$195	$185
RCD	$995	$895	Asiawest Center	$195	$185
WWLOP	$475	no discount	Perry Pavilion	$155	$155

Questions 1

For each of the following sponsors, select *Yes* if an attendee of the sponsor's conference would spend less money by employing the ROB strategy—paying the lowest possible room rate in the host hotel and paying the nondiscounted registration fee—than by reserving a room in the block. Otherwise, select *No*.

	Yes	No	
1A.	○	●	CC
1B.	●	○	FFNA
1C.	●	○	HMHPA

法一：

lowest rate+registration　　Block+non registration

CC:　2*70+720= 860　小于　2*110+620=840　--------N
FFNA:　2*70+325=465　小于　2*140+275=555　--------Y
HMHPH:　2*79+600=758　小于　2*104+575=783　--------Y

法二：

CC：2（110-70）=80节省了的钱　720-620=100多出的钱-------（-100）+80=-20还是要多出20(N)
FFNA:2（140-70）=140节省了的钱　325-275=50 多出的钱-------（-50）+140=90少出了90---(Y)
HMHPH：2（104-79）=50节省了的钱　600-575=25多出的钱------（-25）+50=25少出25----(Y)

Questions 2

Assume that host hotels receive a reimbursement from the conference organizers for 25% of the block rate per night for each unoccupied room in the conference block. For each of the following hotels, select *Yes* if, for at least one conference on the weekend listed, the hotel would lose room revenue if a room in the block is vacant because an attendee employed the ROB strategy. Otherwise, select *No*.

	Yes	No	
2A.		●	Asiawest Center
2B.		●	Bard Inn
2C.	●		Hilton

读懂意思。问的是 如果一个客人原来订酒店选择住在BLOCK，后来改变主意选择ROB。那么空着的BLOCK的房间，conference organizers 失约补偿25%的block 的房费，问改变后酒店能否补回自己的损失。如果不能补回损失，导致收入减少，就是YES，否则NO。
Asiawest Center：Block 190 Lowest 185-----改变房型损失 15
Bard Inn: Block 125 Lowest 125----改变房型损失0
Hilton:Block 105 Lowest 70---改变房型损失35
酒店受到改变房型补偿费用：
Asiawest Center：Block 190*25%~40多----大于-----改变房型损失 15
Bard Inn: Block 125 *25%~30多----大于-----改变房型损失0
Hilton:Block 105*25% ~20多---小于-----改变房型损失35
只有Hilton 没有填补损失的钱，导致了收入减少-----yes，其他两个反而增加收入---no

Questions 3

3. Let X denote the block rate of the host hotel for a particular conference, and let Y denote the lowest room rate available in the host hotel outside of the conference block. For a conference that requires a two-night hotel stay, which one of the following expressions represents the least amount of discount on the conference registration fee that, according to the article, would be sufficient to deter conference attendees from employing the ROB strategy in choosing accommodations?

- A. $\frac{X+Y}{2}$
- B. $\frac{X-Y}{2}$
- ● C. $X-Y$
- D. $X+Y$
- E. $2(X-Y)$

选择Lowest rate那么cost save per night: X-Y 两天就save :2(X-Y)
根据题目第二段说，registration discount rate at least half of cost-save strategy, 那么
registration discount rate=2(X-Y)/2=X-Y
即是C

Questions 4

For each of the following sponsors, select *Yes* if an attendee of the sponsor's conference would spend less money by employing the ROHH strategy—paying the lowest possible room rate outside the host hotel and paying the nondiscounted registration fee—than by reserving a room in the block at the host hotel. Otherwise, select *No*.

	Yes	No	
4A.		●	CC
4B.	●		FFNA
4C.		●	PPOA

法一：
最lowest rate+registration　　Block+ non registration

CC:　2*65+720= 850　大于　2*110+620=840　--------N
FFNA:　2*65+325=455　小于　2*140+275=555　--------Y
PPOA:　2*65+550=690　大于　2*105+400=610　--------N

法二：
CC：2（110-65）=90节省了的钱　720-620=100多出的钱------（-100）+90=-10还是要多出10(N)
FFNA:2（140-65）=150节省了的钱　325-275=50 多出的钱-------（-50）+150=100少出了100(Y)
PPOA 2（105-65）=70节省了的钱　550-400=150多出的钱------（-150）+70=-80还是要多出80(N)

Questions 5

Many individuals stand to benefit financially from attendees at conferences. For each of the following individuals, choose *Loss* if the individual would likely earn less money if rooms in the conference block are vacant because of attendees using ROHH strategies. Otherwise select *No loss*.

	Loss	No loss	就是问客房出售与下面哪个职业有关。 speaker 与conference开不开请不请有关，与房间无关；salaries是固定的，所以与出售房间数无关。毫无疑问housekeeping 的gratuities 小费当然与客房有关！！
5A.		○	Speaker hired by a conference on education to speak about school reform
5B.	○		Room service waiter at the host hotel whose earnings are primarily from gratuities
5C.		○	Salaried front desk manager at the host hotel

Questions 6

6. Assume that all host hotels for the conferences in City X on the weekend indicated have conference block rooms available and that all hotels in City X have rooms available at their lowest rates for the conference weekend. Which one of the following conferences is most likely to have attendees favoring the ROB strategy over the ROHH strategy?

- ○ A. AMG
- B. CDA
- C. QRTA
- D. RCD
- E. WWLOP

从题中两种方式：ROB,ROHH，两种均选择房型为lowest rate in host hotel.
所以只需关注这一纵列.
而AMG lowest rate in host hotel 就是city X所有酒店中最低的。
所以其他酒店选择外住到他家酒店都比在自家的好。
而AMG自然选择自家ROB会比外住ROHH好，没有比他更低的了呀！！

Questions 7 to 9 are based on the following information

Kenyan IPO pricing | Kenyan IPOs, 1994–2008

Researchers recently examined the initial public offering (IPO)—a private firm's first sale of stock shares to the public—of firms listed on Kenya's Nairobi Stock Exchange (NSE) between 1994 and 2008. During this time, the number of IPOs listed per year varied from zero to four. The researchers wanted to examine the extent to which four different variables—investor sentiment, firm size, board prestige, and firm age—affected the IPO stock share price, which is set by the firm. They hypothesized that all four variables would show a strong positive correlation with this IPO asking price. However, after examining the firms listed, they were surprised to find that none of the variables showed a strong positive correlation with IPO pricing, and in fact investor sentiment and board prestige both showed a strong negative correlation.

The researchers also discovered that nearly all of these IPOs were underpriced by an average of 50 percent, which is to say the IPO share prices were about half of what the share prices were at the close of that first day of trading. Such underpricing constitutes a loss to the listed firm because the firm could have immediately raised more money with a higher price. The researchers noted that firms should take care to set an IPO price low enough to capture investor interest but high enough to generate sufficient capital for the firm.

Kenyan IPO pricing | Kenyan IPOs, 1994–2008

The table lists companies, examined by the researchers, that had their IPO on the NSE between 1994 and 2008, together with the IPO share price, first day closing price, and percent underpricing. Prices are in Kenyan shillings.

Company	IPO year	IPO share price (P_0)	First day closing price (P_1)	Percent underpricing*
Co-Operative Bank	2008	9.50	10.45	10.00
Safaricom	2008	5.00	7.35	47.00
Kenya Re	2007	9.50	16.00	68.42
Access Kenya	2007	10.00	13.45	34.50
Eveready	2006	9.50	11.00	15.79
Scangroup	2006	10.45	15.00	43.54
Kengen	2006	11.90	40.00	236.13
Mumias Sugar	2001	6.25	6.25	0.00
Athi River Mining	1997	12.25	12.60	2.86
Kenya Airways	1996	11.25	12.55	11.56
Rea Vipingo	1996	10.50	12.00	14.29
National Bank of Kenya	1994	10.00	26.00	160.00
Firestone East Africa	1994	35.50	35.00	−1.41

*The percent change from P_0 to P_1

Questions 7

For each of the following statements, select *Inferable* if the statement is reasonably inferable from the information provided about the NSE IPOs. Otherwise select *Not inferable*. 可推断与不可推断问题

	Inferable	Not inferable	
7A.	○	○	IPOs of firms with prestigious boards were more likely to be underpriced than those of other firms.
7B.	○	○	Firestone East Africa set its IPO price slightly lower than it should have.
7C.	○	○	At least one of the firms examined by the researchers did not have an underpriced IPO.

A-由文中可以知道，董事会的威望（board prestige）与IPO的价格呈负相关
但是underprice低估价格的问题与上文4个变量无关

B FEA的IPO价格比 first day closing price 更高，B的内容推理不出。
C-由B的FEA 的IPO价格没有被低估以及2001年的MS也没有被低估，所以C结论课推理得出

Questions 8

For each of the following statements, select *Supported* if the statement is supported by the information provided about NSE IPOs. Otherwise select *Not supported*.

	Supported	Not supported	A-由文中可以知道，董事会的威望（board prestige）与IPO的价格呈负相关 IPO价格越低，说明该公司的董事会威望BP越高 IPO:S-5 COP-9.5 所以S的BP高于COP，即A所说的，SUPPORT
8A.	○	○	The board of Safaricom was likely considered more prestigious than that of Co-Operative Bank at the time of their IPOs.
8B.	○	○	Kenya Re and Eveready were approximately the same size firms at the time of their IPOs.
8C.	○	○	When their IPO prices were set, investor sentiment was likely more favorable toward Kengen than toward Scangroup or Eveready.

B firm size 推理不出---NOT SUPPORTED
C--由文中可以知道，investor sentiment 也和IPO呈负相关，Kengen 11.90 Scangroup10.45
everyady 9.5.所以可以得出，investor sentiment 从高到低--everyady>scangroup>kengen----C中反了

Questions 9

9. The discussion of the researchers' study of Kenyan IPOs refers to "board prestige" primarily to

- ○ A. help explain why investor sentiment toward some firms is sometimes very low
  board prestige 和investor sentiment
  没有相关性
- ○ B. caution that some variables should not be considered accurate predictors of IPO pricing 文中压根没提，无关
- ○ C. introduce one of the variables whose relationship to IPO pricing surprised the researchers
  BP和IS的作用，researchers 得出的
  surprise结果
- ○ D. point to one of the attributes firms often use to generate investor interest in their IPO
  board prestige 和investor sentiment
  没有相关性
- ○ E. demonstrate that some attributes of a firm are often negatively correlated with the firm's IPO price
  BP不能作为证据来证明，some attributes
  of a firm ---negative correlated with the
  firm's IPO price.---注意选项的表述

Questions 10 to 12 are based on the following information

Sports Association | News Organizations

Statement by sports association spokesperson:

Our sports association issues contracts to television networks for the exclusive right to broadcast our sporting events. For this right, the networks pay the association substantial fees, which help finance our leagues. We also provide free media passes to our events for journalists so that they can effectively report on sports news, including final scores. Now, however, some news organizations are posting video clips, audio clips, digital photographs, and live score updates from our events on their websites. Conditions must be placed on these practices, which go beyond mere sports news reporting; they harm the value of our broadcasting contracts and violate our rights as the owners of the sports leagues. News organizations that wish to post such information on their websites should therefore sign contracts with the sports association that stipulate what postings will be allowed and how much they will cost. As we have in the past, we will deny media passes to journalists from news organizations that do not comply with our requirements.

Sports Association | News Organizations

1 Statement by news organizations spokes-
2 person:

3 The news business has largely shifted from
4 print media to the Internet, where readers
5 expect text to be accompanied by audio and
6 images. To charge news organizations for
7 providing online sports coverage or to place
8 unnecessary conditions on that coverage is to
9 deny news organizations their right to cover
10 the news. Online news sites are not asking to
11 broadcast sporting events in their entirety, and
12 their sports reporting does not detract from the
13 value of the sports leagues or their events. On
14 the contrary—free, engaging sports reporting
15 generates interest in sports and thus benefits
16 readers and the sports association alike. News
17 organizations must be allowed to report freely
18 about sports on their websites, in any time-
19 frame, using any type of online medium they
20 deem effective.

Questions 10

For each of the following statements, select *Both accept* if, based on the information provided, it can be inferred that both the sports association and the news organizations would likely accept that the statement is true. If not, select *Otherwise*.

	Both accept	Otherwise	
10A.	○	●	There should be no restrictions on news organizations' sports reporting in broadcast media.
10B.	●	○	A sporting event can be adequately reported by a news organization without broadcasting the event in its entirety on the organization's website.
10C.	○	●	Any online activity that substantially increases many people's interest in the sports association's leagues benefits the association.

A-sports association不同意没有限制。损害了他们的利益呀。
B-对的 "the news organizations spokesperson 在line10-11说了"online news sites are not asking to broadcast sporting events in their entirety"---accept
the sports association spokesperson说他们提供several amenities for reporters such as media passes so that they can "effectively report"(line 9)。这说明他们相信events可以不播放全部的event.只要effective&several即可--accept ----both accept。
C-任何的在线能增加人们兴趣的活动(in the sports association's leagues)都有利于association.不正确，第一段说的“video clip, audio clip什么的都不利”

Questions 11

11A-the degree to which online sports reporting generates interest in sports.
尽管organization的人说“free,engaging sports reporting generates interest in sports"(line14-15),
这里说的是对运动产生兴趣，没说degree问题
而运动协会那边并没说有兴趣的信息。----不存在两者相反观点（cannot infer disagreement)

For each of the following issues, select *Disagree* if, based on the information provided, it can be inferred that the sports association and the news organizations would hold opposing positions on the issue. Otherwise, select *Cannot infer disagreement*.

	Disagree	Cannot infer disagreement	
11A.	○	●	The degree to which online sports reporting generates interest in sports
11B.	●	○	How frequently a website should be able to update scores from a sporting event in progress
11C.	●	○	The conditions under which a news organization should be allowed access to report on the sports association's events

11B-how frequently a website should be able to update scores form a sporting event in progress.
association--"practice of live score updates"--需要不能无限制-也就是要有限制
organization--"news organizations must be allowed to report freely about sports on their websites, in any timeframe, using any type of online medium they deem effective"(line16-20)--这里表明没有限制
两者是持有相反意见--disagree
11C-the conditions under which a news organization should be allowed access to report on the sports association's events.
运动协会说“conditions must be placed on these practices"而organizations说要"report freely”持有相反观点--disagree

12. Based on the statements, which one of the following can most reasonably be inferred to be a view held by the news organizations?

○ A. Online news consumers have the right to reproduce digital photographs and audio and video clips of sports association events posted on news organizations' websites.

正确选项B ● B. News organizations' ability to cover sports news effectively will be hampered if their use of online audio, video, and images is prohibited.
organizations 说report freely any type medium,前面association有说这些会损害他们的利益，他们不允许，B说的就是这两个相反的观点

○ C. News organizations have the exclusive right to report on sports news online.

○ D. People are less likely to attend sports events if they have access to live score updates online.

○ E. The sports association should restrict how audio and video clips of its sports events can be disseminated.

其实看图也可以知道规律，图中同一个年龄层中，身高越高，百分比占的也越大，也就是说，不断增加的是高的人，也就是百分比占的人就是包括此身高在内的或者更矮的人。那么可以推出除那百分比之外的（也就是反面）就是身高更高的人

Questions 13 to 18 are based on the following information

This means that a boy XXXcm tall is as tall or taller than n% of boys aged XXyears XX months.
例如：90.3cm男生的高度，高于或者等于（身高比）85%身高的同龄男生。
----> （取反）85%身高，低于或者等于90.3

n表示身高百分比（占所有同龄人的百分比），
当在给定的年龄区，nth表示，对应的特殊身高（即对应表格下的数字），有n%（占在那个年龄中的所有男孩的身高）的男孩的身高小于或者等于这个身高；（100-n)%的男孩身高大于或者等于这身高。例如：
2岁的男孩中，第一个格81.4，有3%的身高小于等于81.4cm，也就是说97%的人高于或者等于这个身高81.4cm。

13:--（B题）B男孩4:3 height 110 cm & weigth 19kg.
找出对应的数字比例，图中信息，4:3的男孩，85%的人身高低于或者等于109.5.那么反推身高高于110cm越占（100-85）%=15%
所以B110cm，只有15%左右的同龄人比他高-说法正确

13--（C题）5：0--大于或者小于 身高110的都占50%，所以，C说法正确。

The World Health Organization (WHO) has produced a comprehensive set of growth standards for children. These standards are based on studies of children living in 6 nations on 5 continents under optimal conditions with respect to health and nutrition. The table displays the percentile distribution of height, in centimeters, at 3-month intervals, for boys ages 2 through 5 according to the WHO model. In a *model population*—a large population of boys ages 2 through 5 that conforms to the WHO growth standards—for n = 3, 15, 50, 85, and 97, the nth percentile in height for a given age is the unique height among boys of that age that is greater than or equal to n percent, and less than or equal to (100 – n) percent, of heights of boys of that age.

16-B题）at least 80% of boys at this age have heights within 10% of B's height.--至少80%的男孩（4:3年龄)在10%的B（110cm）的高度以内。
10%110=11,所以转化为求99cm-121cm之间，由图中得知，4:3年龄段中，15%-100.5，97%-113.1,也就是97%-15%=82%boys 满足条件，又因为99<100.5,113.1<121，所以范围小了，应该扩大，也就是至少82%,那么至少80%毫无疑问是对的。

16C题）-B‘s height（110cm) is less than that of at most 3% of boys at age 4 years 0 months.--B的高度少于至多3%4岁的男孩。---至多3%的男孩的高度高于110cm
4岁中，接近110是107.7cm和111.2cm，
97%的人不高于111.2；85%的人不高于107.7
110在97%-85%之间。-----3%高于111.2；15%高于107.7那么高于110的在3%-15%之间。至少3%而非至多3%---B错误
有个简易的想法：知道97%-111.2那么说明高于111.2的只占3%,而110<111.2那么占的比例肯定比3%还多。怎么会使至多呢？肯定错嘛

OG：B’s height of 110cm is less than that of at least 3% of boys this age, then 110cm would have to be the 97th percentile in height for boys aged 4years o months, which it is not.-错

Age (year: month)	Height in centimeters, by percentile				
	3rd	15th	50th	85th	97th
2:0	81.4	83.9	87.1	90.3	92.9
2:3	83.5	86.3	89.6	93.0	95.7
2:6	85.5	88.4	91.9	95.5	98.3
2:9	87.4	90.4	94.1	97.8	100.8
3:0	89.1	92.2	96.1	99.9	103.1
3:3	90.8	94.0	98.0	102.0	105.2
3:6	92.4	95.7	99.9	104.0	107.3
3:9	93.9	97.4	101.6	105.8	109.3
4:0	95.4	99.0	103.3	107.7	111.2
4:3	96.9	100.5	105.0	109.5	113.1
4:6	98.4	102.1	106.7	111.2	115.0
4:9	99.8	103.6	108.3	113.0	116.8
5:0	101.2	105.2	110.0	114.8	118.7

14A-if his age is greater than 3years 3months, the probability that his height is at least 98.0cm is greater than 50% ---年龄大于3年3个月，那么他的身高至少98.0cm的占的比例多余50%
黄框内的就是符合年龄条件的，3:6--高于98cm占50%
3:9、4：0、4:3、--高于98cm占85%4:7--97%越来越高，最小都是50%,所以A说法正确

14C-if he is 114 cm tall, he is taller than at least 85% of boys his age.---如果他身高为114，那么他比至少85%的同龄人都高。
图中接近这个数字的是云状圈起的5:0那里。
这说明在5岁同龄人中.114.8身高高于或者等于85%的同年龄人的身高。那么114身高的人高于或者等于（少于85%）的同龄人的身高，所以是至多85%，而非至少。错误。（这是我的想法）
OG： it does not follow that a boy 114.8 cm tall is necessarily taller than 85% of boys aged 5 years o months, so it is not necessarily true of a boy 114cm tall, either.

17A-
if his age is exactly 4years0months, the probability that his height is at exactly 99.0cm is 15%。
根据图1,找到4:0的信息，
the 15th percentile 信息表示含义是说15%的四岁男孩等于或者矮于99.0cm.所以包含两个内容，exactly99cm肯定小于15%--A错误

OG:the 15th percentile in height is 99.0cm.thus 15% of boys of this age are 99.0cm tall or shorter. note that the 3rd percentile in height for boys of this age is 95.4cm, so 3% of boys of this age are at this height or shorter. therefore, 15%-3% , or 12% of boys aged 4 years 0months have heights greater than 95.4cm and less than or equal to 99.0cm. the proportion of boys of this age whose height is exactly 99.0cm must therefore be less than or equal to 12%， so the indicated probability is also less than or equal to 12%。

17B题）--if he is 81cm tall, he is shorter than at least 95% of boys his age.--如果他81cm高，那么他比至少95%同龄人还矮
图中接近的只有81.4（最小），表明，3%的2岁的男孩，比81.4矮或者等于81.4.反过来，97%的人都高于或者等于81.4的身高。所以B-说法正确。

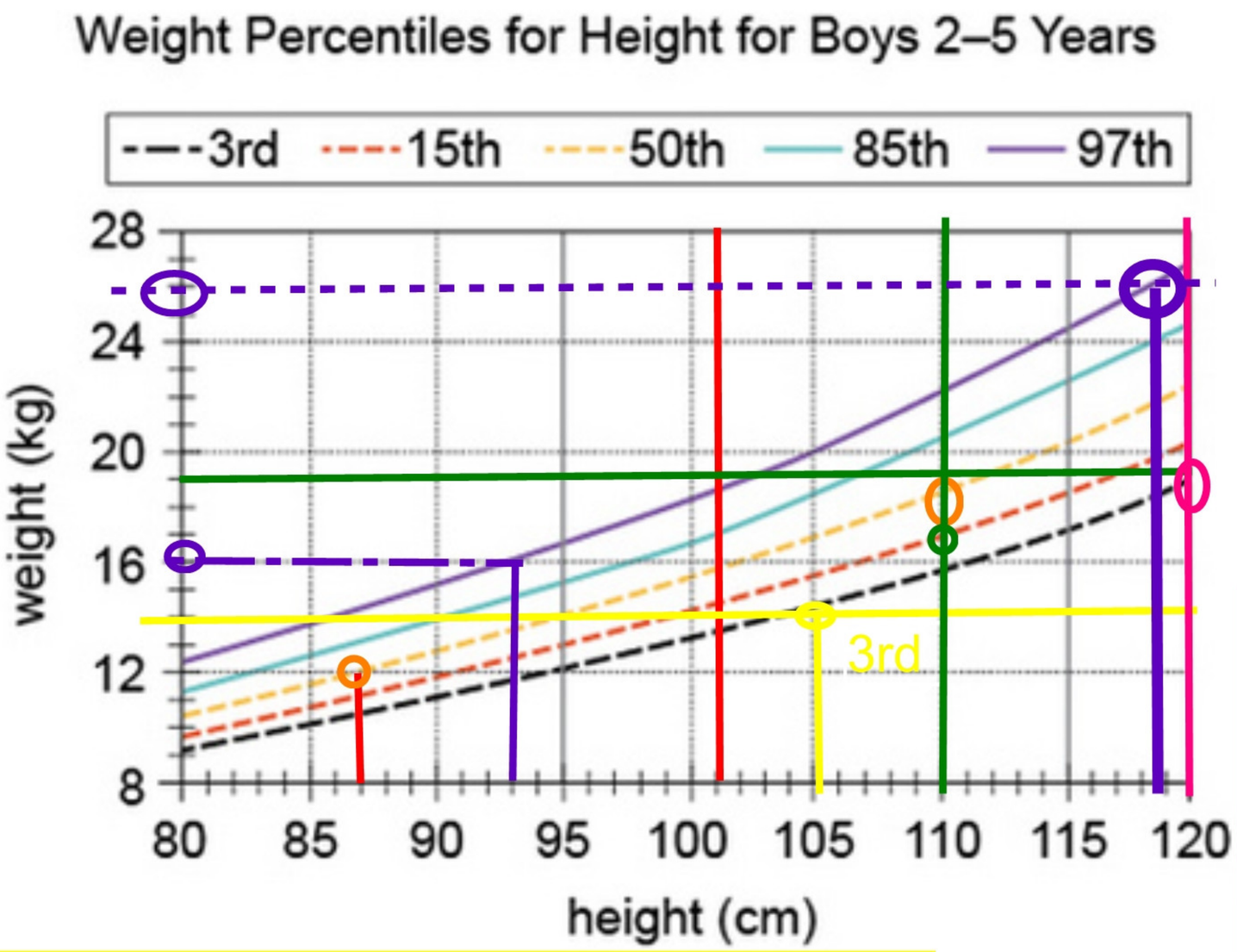
Height-for-age standards | Weight-for-height standards

The graph shows the percentile distribution of weight, in kilograms, for heights from 80 cm to 120 cm, for boys ages 2 through 5, according to the WHO model. In a model population, for n = 3, 15, 50, 85, and 97, the nth percentile in weight for a given height is the unique weight among boys of that height that is greater than or equal to n percent, and less than or equal to (100 – n) percent, of weights of boys of that age.

n表示体重百分比（占给定高度的百分比），
当在给定的高度下，nth表示，对应的特殊体重（即对应表格下的数字），有n%的男孩的体重小于或者等于这个体重；（100-n)%的男孩体重大于或者等于这体重。例如：
黑色虚线，105cm的男生，有3%的体重小于等于14kg，也就是说97%的人 高于或者等于这个体重14kg。

16A-（条件B-4:3，110cm,19kg）at least 15% of boys at the same height have a weight that is less than or equal to that of B
同样高度下（110），至少15%的男孩小于或者等于B的体重。

根据图2，
15%特殊值，就看15%线与110高度的交点，表示110cm高度下，15%的人低于或等于17kg. B-19kg>17kg。要想得到低于或者等于19kg就需要高于15%.
.---选项正确。
(其实直接看，条件的交汇点在于50%-85%之间，大概估算为65%左右，那么就是说65%的人的体重低于或者等于19kg。满足上文说at least 15%。--也是正确的。



17C题）--if he is 120cm tall,he weighs more than 97% of boys age 2 years 6 months.--如果他120cm高，他的体重大于97%的男孩（2:6）

看图2，
97%的120cm高的男孩的体重大于18kg。但是随机选择男孩的高度，体重就会小于18kg.
尽管男孩的体重知道，也无法得知2岁6个月的男孩的体重，所以没有充足的条件得出结论。
快捷做法；此题已知高度，看年龄和体重，出现体重看图2，已知图二显示高度与体重关系，与年龄无关，即C属无法比较。--不管说什么都错

14B-if he is at least 105cm tall,the probability that his weight is 14.0kg is no greater than 3%.--他至少105cm高，那么他的体重是14kg的百分比不高于3%.
由这个图看出，交汇点在3rd这线上，说明105cm的男孩，有3%的低于或者等于（即不高于）14kg.多数人（97%）的男孩的重量大于14kg.那么高于105cm的话，(小于3%）越来越少人低于或者等于14kg，---那么是14kg的体重的可能性就越低。B说法正确。

Questions 13

B is a boy aged 4 years 3 months whose height is 110 cm and whose weight is 19 kg. For each of the following statements, select *Yes* if, based on the given information, it must be true of B relative to a model population. Otherwise, select *No*.

	Yes	No	
13A.			Approximately 50% of boys at the same weight are shorter than B.
13B.			No more than 15% of boys at this age are taller than B.
13C.			B's height is greater than or equal to that of 50% of boys aged 5 years 0 months.

A--无充足条件，无法单从两图中得知，相同的重量19kg，少于110cm的男生所占的比列，从数学角度说，有两个变量一个常量（定量），年龄.身高
B.C解释见图1

Questions 14

For each of the following statements, select *Yes* if the statement must be true of a boy selected at random from a model population. Otherwise, select *No*.

	Yes	No	
14A.			If his age is greater than 3 years 3 months, the probability that his height is at least 98.0 cm is greater than 50%.
14B.			If he is at least 105 cm tall, the probability that his weight is 14.0 kg is no greater than 3%.
14C.			If he is 114 cm tall, he is taller than at least 85% of boys his age.

Questions 15

15. Consider an individual boy from a model population. Suppose that from age 2 through age 5, this boy's weight is at the 50th percentile for his height and his height is at the 50th percentile for his age. Which one of the following statements must be true of the boy at age 5 years 0 months?

- A. His age is at the 50th percentile for his height.
- B. His weight is at the 50th percentile for his age.
- C. His height is at the 50th percentile for his weight.
- D. His weight is approximately 150% of his weight at age 2 years 0 months.
- E. His weight is approximately 200% of his weight at age 2 years 0 months.

IR15: 这个boy从2岁到5岁的体重和身高一直是在50 percentage的同龄水平，5岁时哪个正确？
从第一个表格：5:0找50th，对应身高110.0，从第二个表格看，身高110.0对应50 percentage的体重在18KG左右。
再从第一个表格：2:0找50th，87.1cm，
第二个表格：大概对应12kg。
18kg是12kg的150%。

Questions 16

B is a boy aged 4 years 3 months whose height is 110 cm and whose weight is 19 kg. For each of the following statements, select *Yes* if, based on the given information, it must be true of B relative to a model population. Otherwise, select *No*.

	Yes	No	
16A.	○	○	At least 15% of boys at the same height have a weight that is less than or equal to that of B.
16B.	○	○	At least 80% of boys at this age have heights within 10% of B's height.
16C.	○	○	B's height is less than that of at most 3% of boys at age 4 years 0 months.

Questions 17

For each of the following statements, select *Yes* if the statement must be true of a boy selected at random from a model population. Otherwise, select *No*.

	Yes	No	
17A.	○	○	If his age is exactly 4 years 0 months, the probability that his height is at exactly 99.0 cm is 15%.
17B.	○	○	If he is 81 cm tall, he is shorter than at least 95% of boys his age.
17C.	○	○	If he is 120 cm tall, he weighs more than 97% of boys age 2 years 6 months.

Questions 18

18. Consider an individual boy from a model population. Suppose that from age 2 through age 5, this boy's weight is at the 97th percentile for his height and his height is at the 97th percentile for his age. Which one of the following statements must be true of the boy at age 5 years 0 months?

- A. His age is at the 97th percentile for his height. 反了--文中说的是知道年龄（也就是年龄一定），来看身高。
- B. His weight is at the 97th percentile for his age. ×
- C. His height is at the 97th percentile for his weight. 反了-文中说的是知道身高（也就是身高一定，来看重量）
- D. His weight is approximately 166% of his weight at age 2 years 0 months.
- E. His weight is approximately 197% of his weight at age 2 years 0 months.

根据题中条件，查找出
5years:---weight:26.height:118.7
2years:---weigtht:16.height:92.9
D.E所说的是26/16=1.625=162.5%接近166%.D对，E错
两个图都不能provide a distribution of age on the basis of weigth, height, or any other variable, so it is impossible to determine where the boy's age falls in the distribution of age for height(A).
the boy's weight is less than that of 97% of boys his height and his height is less than that of 97% of boys his age, but it is impossible to tell where his weigth falls among the weights of boys his age(B).
likewise, knowing height-for-weight percentiles does not provide information about weight-for-height percentiles(C)

Questions 19 is based on the following information

The table lists minimum temperature, maximum temperature, and weather conditions reported in 30 cities on 6 continents on February 19, 2011.

Sort By: City

City	Continent	Minimum temperature (°C)	Maximum temperature (°C)	Weather conditions
Atlanta	North America	11	21	cloudy
Auckland	Oceania	18	25	cloudy
Bangkok	Asia	26	34	cloudy
Beijing	Asia	–3	10	fine
Berlin	Europe	–4	–1	cloudy
Buenos Aires	South America	20	29	rain
Cairo	Africa	14	24	fine
Chicago	North America	–4	3	cloudy
Dublin	Europe	5	11	bright
Frankfurt	Europe	1	7	cloudy
Houston	North America	16	24	cloudy
Johannesburg	Africa	16	26	thunderstorms
Kuala Lumpur	Asia	24	33	rain
London	Europe	5	10	rain
Los Angeles	North America	10	15	showers
Madrid	Europe	5	12	rain
Manila	Asia	22	32	thunderstorms
Mexico City	North America	7	25	fine
Montréal	North America	–6	–4	bright
Mumbai	Asia	21	30	fine
New York	North America	2	3	snow
Paris	Europe	5	7	rain
Rio de Janeiro	South America	21	38	cloudy
Santiago	South America	11	29	fine
Seoul	Asia	–3	9	cloudy
Sydney	Oceania	25	29	showers
Tehran	Asia	3	11	haze
Tokyo	Asia	3	9	fine
Toronto	North America	–6	–2	cloudy
Vancouver	North America	–2	5	fine

C-for the Asian cities, the median minimum temperature was 12.
蓝框中是ASIAN,共有8个，中位数，是4.5个的平均数。对应排除，最后4个21,22,24,26前4个-3，-3,3,3所以中位数是3和21的平均，即12.正确

Sort By: Continer

City	Continent	Minimum temperature (°C)	Maximum temperature (°C)	Weather conditions
Cairo	Africa	14	24	fine
Johannesburg	Africa	16	26	thunderstorms
Bangkok	Asia	26	34	cloudy
Beijing	Asia	–3	10	fine
Kuala Lumpur	Asia	24	33	rain
Manila	Asia	22	32	thunderstorms
Mumbai	Asia	21	30	fine
Seoul	Asia	–3	9	cloudy
Tehran	Asia	3	11	haze
Tokyo	Asia	3	9	fine
Berlin	Europe	–4	–1	cloudy
Dublin	Europe	5	11	bright
Frankfurt	Europe	1	7	cloudy
London	Europe	5	10	rain
Madrid	Europe	5	12	rain
Paris	Europe	5	7	rain
Atlanta	North America	11	21	cloudy
Chicago	North America	–4	3	cloudy
Houston	North America	16	24	cloudy
Los Angeles	North America	10	15	showers
Mexico City	North America	7	25	fine
Montréal	North America	–6	–4	bright
New York	North America	2	3	snow
Toronto	North America	–6	–2	cloudy
Vancouver	North America	–2	5	fine
Auckland	Oceania	18	25	cloudy
Sydney	Oceania	25	29	showers
Buenos Aires	South America	20	29	rain
Rio de Janeiro	South America	21	38	cloudy
Santiago	South America	11	29	fine

A-the mean maximun temperature for the cities in south America was greater than that for the cities in Oceania.
比较两个地区的平均最大的气温。
Oceania:25和29
South America:29,29,38，三个数变两个，两个29，所以这两个平均数也是29.所以变成29和38
那么就变成25,29和29,38，很容易，一看便知，后者平均数一定大于前者，所以A正确

Sort By: Minimun

City	Continent	Minimum temperature (°C)	Maximum temperature (°C)	Weather conditions
Montréal	North America	–6	–4	bright
Toronto	North America	–6	–2	cloudy
Berlin	Europe	–4	–1	cloudy
Chicago	North America	–4	3	cloudy
Beijing	Asia	–3	10	fine
Seoul	Asia	–3	9	cloudy
Vancouver	North America	–2	5	fine
Frankfurt	Europe	1	7	cloudy
New York	North America	2	3	snow
Tehran	Asia	3	11	haze
Tokyo	Asia	3	9	fine
Dublin	Europe	5	11	bright
London	Europe	5	10	rain
Madrid	Europe	5	12	rain
Paris	Europe	5	7	rain
Mexico City	North America	7	25	fine
Los Angeles	North America	10	15	showers
Atlanta	North America	11	21	cloudy
Santiago	South America	11	29	fine
Cairo	Africa	14	24	fine
Johannesburg	Africa	16	26	thunderstorms
Houston	North America	16	24	cloudy
Auckland	Oceania	18	25	cloudy
Buenos Aires	South America	20	29	rain
Mumbai	Asia	21	30	fine
Rio de Janeiro	South America	21	38	cloudy
Manila	Asia	22	32	thunderstorms
Kuala Lumpur	Asia	24	33	rain
Sydney	Oceania	25	29	showers
Bangkok	Asia	26	34	cloudy

at least one city reporting fine weather has a maximum temperature less than 0.
定位一个变量，最大气温小于0度的，就是红框里三个地方，没有一个weather conditions是fine,所以错误

Sort By: Maximur

City	Continent	Minimum temperature (°C)	Maximum temperature (°C)	Weather conditions
Montréal	North America	–6	–4	bright
Toronto	North America	–6	–2	cloudy
Berlin	Europe	–4	–1	cloudy
Chicago	North America	–4	3	cloudy
New York	North America	2	3	snow
Vancouver	North America	–2	5	fine
Frankfurt	Europe	1	7	cloudy
Paris	Europe	5	7	rain
Seoul	Asia	–3	9	cloudy
Tokyo	Asia	3	9	fine
Beijing	Asia	–3	10	fine
London	Europe	5	10	rain
Tehran	Asia	3	11	haze
Dublin	Europe	5	11	bright
Madrid	Europe	5	12	rain
Los Angeles	North America	10	15	showers
Atlanta	North America	11	21	cloudy
Cairo	Africa	14	24	fine
Houston	North America	16	24	cloudy
Mexico City	North America	7	25	fine
Auckland	Oceania	18	25	cloudy
Johannesburg	Africa	16	26	thunderstorms
Santiago	South America	11	29	fine
Buenos Aires	South America	20	29	rain
Sydney	Oceania	25	29	showers
Mumbai	Asia	21	30	fine
Manila	Asia	22	32	thunderstorms
Kuala Lumpur	Asia	24	33	rain
Bangkok	Asia	26	34	cloudy
Rio de Janeiro	South America	21	38	cloudy

Sort By: Weather

City	Continent	Minimum temperature (°C)	Maximum temperature (°C)	Weather conditions
Montréal	North America	–6	–4	bright
Dublin	Europe	5	11	bright
Toronto	North America	–6	–2	cloudy
Berlin	Europe	–4	–1	cloudy
Chicago	North America	–4	3	cloudy
Frankfurt	Europe	1	7	cloudy
Seoul	Asia	–3	9	cloudy
Atlanta	North America	11	21	cloudy
Houston	North America	16	24	cloudy
Auckland	Oceania	18	25	cloudy
Bangkok	Asia	26	34	cloudy
Rio de Janeiro	South America	21	38	cloudy
Vancouver	North America	–2	5	fine
Tokyo	Asia	3	9	fine
Beijing	Asia	–3	10	fine
Cairo	Africa	14	24	fine
Mexico City	North America	7	25	fine
Santiago	South America	11	29	fine
Mumbai	Asia	21	30	fine
Tehran	Asia	3	11	haze
Paris	Europe	5	7	rain
London	Europe	5	10	rain
Madrid	Europe	5	12	rain
Buenos Aires	South America	20	29	rain
Kuala Lumpur	Asia	24	33	rain
Los Angeles	North America	10	15	showers
Sydney	Oceania	25	29	showers
New York	North America	2	3	snow
Johannesburg	Africa	16	26	thunderstorms
Manila	Asia	22	32	thunderstorms

Questions 19

For each of the following statements, select *Yes* if the statement is true based solely on the information reported for these cities on this day. Otherwise select *No*.

	Yes	No	
19A.	○	○	The mean maximum temperature for the cities in South America was greater than that for the cities in Oceania. 察看continent图
19B.	○	○	At least one city reporting *fine* weather had a maximum temperature less than 0°C. 察看maximun 图
19C.	○	○	For the Asian cities, the median minimum temperature was 12°C. 察看continent图

Questions 20 is based on the following information

During a recent semester at University X, 25 students enrolled in an economics class. Each student was enrolled in the university's 4-year business program and took the course either as a traditional student (attending class and sitting for exams in person) or as an online student (listening to lectures and taking exams via computer), but not both. For each student, the table indicates whether he or she took the course online, along with his or her year in the program and scores on Exam 1, Exam 2, and the final exam. The final score was computed as a weighted mean of the scores on Exam 1, Exam 2, and the final exam, using the same weights for each student.

Sort By: Student surname

Student surname	Online student? (Y/N)	Year in program	Exam 1 score	Exam 2 score	Final exam score	Final score
Abusuba	Y	2	89	87	85	86.50
Ardanin	N	1	85	83	84	84.00
Bar-Yaacov	Y	1	65	70	68	67.75
Benson	Y	1	77	80	75	76.75
Dedeoglu	N	2	90	96	95	94.00
Derezinski	Y	3	85	84	82	83.25
Garcia	Y	2	90	87	86	87.25
Hernandez	N	2	72	74	75	74.00
Jeyaretnam	Y	2	77	76	78	77.25
Lindt	Y	3	87	82	81	82.75
Mladek	N	4	64	75	76	72.75
Nguyen	N	3	70	74	72	72.00
Orlando	N	2	82	84	80	81.50
Pai	N	2	75	78	72	74.25
Parasarathy	N	2	88	91	95	92.25
Radzinsky	Y	3	91	95	100	96.50
Russell	N	4	51	69	72	66.00
Sweets	N	2	66	76	74	72.50
Sykes	N	3	51	69	73	66.50
Tachau	N	2	91	93	92	92.00
Tsosie	N	2	84	87	85	85.25
Underhill	N	1	77	75	71	73.50
Vladimirov	Y	3	69	75	74	73.00
Washburn	N	2	85	83	82	83.00
Zervos	N	2	95	97	98	97.00

Sort By: Online student? (Y/N)

Student surname	Online student? (Y/N)	Year in program	Exam 1 score	Exam 2 score	Final exam score	Final score
Abusuba	Y	2	89	87	85	86.50
Bar-Yaacov	Y	1	65	70	68	67.75
Benson	Y	1	77	80	75	76.75
Derezinski	Y	3	85	84	82	83.25
Garcia	Y	2	90	87	86	87.25
Jeyaretnam	Y	2	77	76	78	77.25
Lindt	Y	3	87	82	81	82.75
Radzinsky	Y	3	91	95	100	96.50
Vladimirov	Y	3	69	75	74	73.00
Ardanin	N	1	85	83	84	84.00
Dedeoglu	N	2	90	96	95	94.00
Hernandez	N	2	72	74	75	74.00
Mladek	N	4	64	75	76	72.75
Nguyen	N	3	70	74	72	72.00
Orlando	N	2	82	84	80	81.50
Pai	N	2	75	78	72	74.25
Parasarathy	N	2	88	91	95	92.25
Russell	N	4	51	69	72	66.00
Sweets	N	2	66	76	74	72.50
Sykes	N	3	51	69	73	66.50
Tachau	N	2	91	93	92	92.00
Tsosie	N	2	84	87	85	85.25
Underhill	N	1	77	75	71	73.50
Washburn	N	2	85	83	82	83.00
Zervos	N	2	95	97	98	97.00

C-for exam 1 scores for students in year 3 of the program, the range was 40.
exam1：最小时41,最大是91，range=91-51=40
C说法正确

Sort By: Year in program

Student surname	Online student? (Y/N)	Year in program	Exam 1 score	Exam 2 score	Final exam score	Final score
Bar-Yaacov	Y	1	65	70	68	67.75
Benson	Y	1	77	80	75	76.75
Ardanin	N	1	85	83	84	84.00
Underhill	N	1	77	75	71	73.50
Abusuba	Y	2	89	87	85	86.50
Garcia	Y	2	90	87	86	87.25
Jeyaretnam	Y	2	77	76	78	77.25
Dedeoglu	N	2	90	96	95	94.00
Hernandez	N	2	72	74	75	74.00
Orlando	N	2	82	84	80	81.50
Pai	N	2	75	78	72	74.25
Parasarathy	N	2	88	91	95	92.25
Sweets	N	2	66	76	74	72.50
Tachau	N	2	91	93	92	92.00
Tsosie	N	2	84	87	85	85.25
Washburn	N	2	85	83	82	83.00
Zervos	N	2	95	97	98	97.00
Derezinski	Y	3	85	84	82	83.25
Lindt	Y	3	87	82	81	82.75
Radzinsky	Y	3	91	95	100	96.50
Vladimirov	Y	3	69	75	74	73.00
Nguyen	N	3	70	74	72	72.00
Sykes	N	3	51	69	73	66.50
Mladek	N	4	64	75	76	72.75
Russell	N	4	51	69	72	66.00

Sort By: Exam 1 score

Student surname	Online student? (Y/N)	Year in program	Exam 1 score	Exam 2 score	Final exam score	Final score
Sykes	N	3	51	69	73	66.50
Russell	N	4	51	69	72	66.00
Mladek	N	4	64	75	76	72.75
Bar-Yaacov	Y	1	65	70	68	67.75
Sweets	N	2	66	76	74	72.50
Vladimirov	Y	3	69	75	74	73.00
Nguyen	N	3	70	74	72	72.00
Hernandez	N	2	72	74	75	74.00
Pai	N	2	75	78	72	74.25
Benson	Y	1	77	80	75	76.75
Underhill	N	1	77	75	71	73.50
Jeyaretnam	Y	2	77	76	78	77.25
Orlando	N	2	82	84	80	81.50
Tsosie	N	2	84	87	85	85.25
Ardanin	N	1	85	83	84	84.00
Washburn	N	2	85	83	82	83.00
Derezinski	Y	3	85	84	82	83.25
Lindt	Y	3	87	82	81	82.75
Parasarathy	N	2	88	91	95	92.25
Abusuba	Y	2	89	87	85	86.50
Garcia	Y	2	90	87	86	87.25
Dedeoglu	N	2	90	96	95	94.00
Tachau	N	2	91	93	92	92.00
Radzinsky	Y	3	91	95	100	96.50
Zervos	N	2	95	97	98	97.00

Sort By: Exam 2 score

Student surname	Online student? (Y/N)	Year in program	Exam 1 score	Exam 2 score	Final exam score	Final score
Sykes	N	3	51	69	73	66.50
Russell	N	4	51	69	72	66.00
Bar-Yaacov	Y	1	65	70	68	67.75
Nguyen	N	3	70	74	72	72.00
Hernandez	N	2	72	74	75	74.00
Mladek	N	4	64	75	76	72.75
Vladimirov	Y	3	69	75	74	73.00
Underhill	N	1	77	75	71	73.50
Sweets	N	2	66	76	74	72.50
Jeyaretnam	Y	2	77	76	78	77.25
Pai	N	2	75	78	72	74.25
Benson	Y	1	77	80	75	76.75
Lindt	Y	3	87	82	81	82.75
Ardanin	N	1	85	83	84	84.00
Washburn	N	2	85	83	82	83.00
Orlando	N	2	82	84	80	81.50
Derezinski	Y	3	85	84	82	83.25
Tsosie	N	2	84	87	85	85.25
Abusuba	Y	2	89	87	85	86.50
Garcia	Y	2	90	87	86	87.25
Parasarathy	N	2	88	91	95	92.25
Tachau	N	2	91	93	92	92.00
Radzinsky	Y	3	91	95	100	96.50
Dedeoglu	N	2	90	96	95	94.00
Zervos	N	2	95	97	98	97.00

Sort By: Final exam score

Student surname	Online student? (Y/N)	Year in program	Exam 1 score	Exam 2 score	Final exam score	Final score
Bar-Yaacov	Y	1	65	70	68	67.75
Underhill	N	1	77	75	71	73.50
Russell	N	4	51	69	72	66.00
Nguyen	N	3	70	74	72	72.00
Pai	N	2	75	78	72	74.25
Sykes	N	3	51	69	73	66.50
Sweets	N	2	66	76	74	72.50
Vladimirov	Y	3	69	75	74	73.00
Hernandez	N	2	72	74	75	74.00
Benson	Y	1	77	80	75	76.75
Mladek	N	4	64	75	76	72.75
Jeyaretnam	Y	2	77	76	78	77.25
Orlando	N	2	82	84	80	81.50
Lindt	Y	3	87	82	81	82.75
Washburn	N	2	85	83	82	83.00
Derezinski	Y	3	85	84	82	83.25
Ardanin	N	1	85	83	84	84.00
Tsosie	N	2	84	87	85	85.25
Abusuba	Y	2	89	87	85	86.50
Garcia	Y	2	90	87	86	87.25
Tachau	N	2	91	93	92	92.00
Parasarathy	N	2	88	91	95	92.25
Dedeoglu	N	2	90	96	95	94.00
Zervos	N	2	95	97	98	97.00
Radzinsky	Y	3	91	95	100	96.50

Sort By: Final score

Student surname	Online student? (Y/N)	Year in program	Exam 1 score	Exam 2 score	Final exam score	Final score
Russell	N	4	51	69	72	66.00
Sykes	N	3	51	69	73	66.50
Bar-Yaacov	Y	1	65	70	68	67.75
Nguyen	N	3	70	74	72	72.00
Sweets	N	2	66	76	74	72.50
Mladek	N	4	64	75	76	72.75
Vladimirov	Y	3	69	75	74	73.00
Underhill	N	1	77	75	71	73.50
Hernandez	N	2	72	74	75	74.00
Pai	N	2	75	78	72	74.25
Benson	Y	1	77	80	75	76.75
Jeyaretnam	Y	2	77	76	78	77.25
Orlando	N	2	82	84	80	81.50
Lindt	Y	3	87	82	81	82.75
Washburn	N	2	85	83	82	83.00
Derezinski	Y	3	85	84	82	83.25
Ardanin	N	1	85	83	84	84.00
Tsosie	N	2	84	87	85	85.25
Abusuba	Y	2	89	87	85	86.50
Garcia	Y	2	90	87	86	87.25
Tachau	N	2	91	93	92	92.00
Parasarathy	N	2	88	91	95	92.25
Dedeoglu	N	2	90	96	95	94.00
Radzinsky	Y	3	91	95	100	96.50
Zervos	N	2	95	97	98	97.00

B--the median final score for all 25 students was 81.5. 25是单数，那么中位数就是第13个。正确

Questions 20

For each of the following statements, select *Yes* if the statement is true based on the information provided; otherwise select *No*.

	Yes	No	A-无充足条件可以得出这个结论，所以不对。
20A.		○	The score on the final exam had equal weight with the score on Exam 2 in computing the final score.
20B.	○		The median final score for all 25 students was 81.50. 察看TS图
20C.	○		For Exam 1 scores for students in year 3 of the program, the range was 40. 察看year图

the score on the final exam had equal weight with the score on Exam 2 in computing the final score.

Questions 21 is based on the following information

Anthropologists collected data about cultural patterns and norms for several small indigenous populations in various countries. The table displays data collected about the economic base; residential patterns (residence); degree of market integration (mean MI)—defined as the percentage of calories obtained in the marketplace; percentage of population participating in world religions (mean WR); and average community size (mean CS).

Sort By: Population

Population	Location	Economic base	Residence	Mean MI	Mean WR	Mean CS
Au	Papua New Guinea	horticulture, foraging	sedentary	1	100	309
Dolgan/NG	Siberia	hunting, fishing, and wage work	semisedentary	63	59	612
Gusii	Kenya	farming and wage work	sedentary	28	100	4,063
Hadza	Tanzania	foraging	nomadic	0	0	43
Isanga Village	Tanzania	farming and wage work	sedentary	70	99	1,500
Maragoli	Kenya	farming and wage work	sedentary	43	100	3,843
Orma	Kenya	herding livestock	seminomadic	72	100	125
Samburu	Kenya	herding livestock	seminomadic	69	66	2,000
Sanquianga	Colombia	fisheries	sedentary	82	84	1,931
Shuar	Ecuador	horticulture	sedentary	22	76	498
Sursurunga	Papua New Guinea	horticulture	sedentary	24	100	186
Tsimane	Bolivia	horticulture, foraging	seminomadic	7	100	314
Yasawa	Fiji	horticulture, marine foraging	sedentary	21	100	109

Sort By: Location

Population	Location	Economic base	Residence	Mean MI	Mean WR	Mean CS
Tsimane	Bolivia	horticulture, foraging	seminomadic	7	100	314
Sanquianga	Colombia	fisheries	sedentary	82	84	1,931
Shuar	Ecuador	horticulture	sedentary	22	76	498
Yasawa	Fiji	horticulture, marine foraging	sedentary	21	100	109
Gusii	Kenya	farming and wage work	sedentary	28	100	4,063
Maragoli	Kenya	farming and wage work	sedentary	43	100	3,843
Orma	Kenya	herding livestock	seminomadic	72	100	125
Samburu	Kenya	herding livestock	seminomadic	69	66	2,000
Au	Papua New Guinea	horticulture, foraging	sedentary	1	100	309
Sursurunga	Papua New Guinea	horticulture	sedentary	24	100	186
Dolgan/NG	Siberia	hunting, fishing, and wage work	semisedentary	63	59	612
Hadza	Tanzania	foraging	nomadic	0	0	43
Isanga Village	Tanzania	farming and wage work	sedentary	70	99	1,500

Sort By: Economic base

Population	Location	Economic base	Residence	Mean MI	Mean WR	Mean CS
Gusii	Kenya	farming and wage work	sedentary	28	100	4,063
Maragoli	Kenya	farming and wage work	sedentary	43	100	3,843
Isanga Village	Tanzania	farming and wage work	sedentary	70	99	1,500
Sanquianga	Colombia	fisheries	sedentary	82	84	1,931
Hadza	Tanzania	foraging	nomadic	0	0	43
Orma	Kenya	herding livestock	seminomadic	72	100	125
Samburu	Kenya	herding livestock	seminomadic	69	66	2,000
Shuar	Ecuador	horticulture	sedentary	22	76	498
Sursurunga	Papua New Guinea	horticulture	sedentary	24	100	186
Tsimane	Bolivia	horticulture, foraging	seminomadic	7	100	314
Au	Papua New Guinea	horticulture, foraging	sedentary	1	100	309
Yasawa	Fiji	horticulture, marine foraging	sedentary	21	100	109
Dolgan/NG	Siberia	hunting, fishing, and wage work	semisedentary	63	59	612

Sort By: Residence

Population	Location	Economic base	Residence	Mean MI	Mean WR	Mean CS
Hadza	Tanzania	foraging	nomadic	0	0	43
Sanquianga	Colombia	fisheries	sedentary	82	84	1,931
Shuar	Ecuador	horticulture	sedentary	22	76	498
Yasawa	Fiji	horticulture, marine foraging	sedentary	21	100	109
Gusii	Kenya	farming and wage work	sedentary	28	100	4,063
Maragoli	Kenya	farming and wage work	sedentary	43	100	3,843
Sursurunga	Papua New Guinea	horticulture	sedentary	24	100	186
Au	Papua New Guinea	horticulture, foraging	sedentary	1	100	309
Isanga Village	Tanzania	farming and wage work	sedentary	70	99	1,500
Tsimane	Bolivia	horticulture, foraging	seminomadic	7	100	314
Orma	Kenya	herding livestock	seminomadic	72	100	125
Samburu	Kenya	herding livestock	seminomadic	69	66	2,000
Dolgan/NG	Siberia	hunting, fishing, and wage work	semisedentary	63	59	612

A-the populations that forage have the lowest market integration ratings.
说的是lowest MI是forage，只要看MI图，看看最小是不是，
由图可以知道，MI最小第一个的确是foraging，正确

Sort By: Mean MI

Population	Location	Economic base	Residence	Mean MI	Mean WR	Mean CS
Hadza	Tanzania	foraging	nomadic	0	0	43
Au	Papua New Guinea	horticulture, foraging	sedentary	1	100	309
Tsimane	Bolivia	horticulture, foraging	seminomadic	7	100	314
Yasawa	Fiji	horticulture, marine foraging	sedentary	21	100	109
Shuar	Ecuador	horticulture	sedentary	22	76	498
Sursurunga	Papua New Guinea	horticulture	sedentary	24	100	186
Gusii	Kenya	farming and wage work	sedentary	28	100	4,063
Maragoli	Kenya	farming and wage work	sedentary	43	100	3,843
Dolgan/NG	Siberia	hunting, fishing, and wage work	semisedentary	63	59	612
Samburu	Kenya	herding livestock	seminomadic	69	66	2,000
Isanga Village	Tanzania	farming and wage work	sedentary	70	99	1,500
Orma	Kenya	herding livestock	seminomadic	72	100	125
Sanquianga	Colombia	fisheries	sedentary	82	84	1,931

C-the range for market integration is less than the range for participation in world religions.
MI the range和WR的range，所以看着两个图，
range MI: 0---82
range WR: 0----100
MI<WR,所以C中说法正确

Sort By: Mean WR

Population	Location	Economic base	Residence	Mean MI	Mean WR	Mean CS
Hadza	Tanzania	foraging	nomadic	0	0	43
Dolgan/NG	Siberia	hunting, fishing, and wage work	semisedentary	63	59	612
Samburu	Kenya	herding livestock	seminomadic	69	66	2,000
Shuar	Ecuador	horticulture	sedentary	22	76	498
Sanquianga	Colombia	fisheries	sedentary	82	84	1,931
Isanga Village	Tanzania	farming and wage work	sedentary	70	99	1,500
Au	Papua New Guinea	horticulture, foraging	sedentary	1	100	309
Tsimane	Bolivia	horticulture, foraging	seminomadic	7	100	314
Yasawa	Fiji	horticulture, marine foraging	sedentary	21	100	109
Sursurunga	Papua New Guinea	horticulture	sedentary	24	100	186
Gusii	Kenya	farming and wage work	sedentary	28	100	4,063
Maragoli	Kenya	farming and wage work	sedentary	43	100	3,843
Orma	Kenya	herding livestock	seminomadic	72	100	125

B-each of the populations that depend on both farming and wage work is sedentary and has a mean community size among the five largest.
察看residence看farming and wage work是否都是sedentary.
由图正确，那么前半部分正确.其中他们三个，占了第一，第二，和也第五所以后半句也是正确的

Sort By: Mean CS

Population	Location	Economic base	Residence	Mean MI	Mean WR	Mean CS
Hadza	Tanzania	foraging	nomadic	0	0	43
Yasawa	Fiji	horticulture, marine foraging	sedentary	21	100	109
Orma	Kenya	herding livestock	seminomadic	72	100	125
Sursurunga	Papua New Guinea	horticulture	sedentary	24	100	186
Au	Papua New Guinea	horticulture, foraging	sedentary	1	100	309
Tsimane	Bolivia	horticulture, foraging	seminomadic	7	100	314
Shuar	Ecuador	horticulture	sedentary	22	76	498
Dolgan/NG	Siberia	hunting, fishing, and wage work	semisedentary	63	59	612
Isanga Village	Tanzania	farming and wage work	sedentary	70	99	1,500
Sanquianga	Colombia	fisheries	sedentary	82	84	1,931
Samburu	Kenya	herding livestock	seminomadic	69	66	2,000
Maragoli	Kenya	farming and wage work	sedentary	43	100	3,843
Gusii	Kenya	farming and wage work	sedentary	28	100	4,063

Questions 21

For each of the following statements about these indigenous populations, select *Yes* if the statement accurately reflects the data provided in the table. Otherwise, select *No*.

	Yes	No	看MI图
21A.	○	○	The populations that forage have the lowest market integration ratings.
21B.	○	○	Each of the populations that depend on both farming and wage work is sedentary and has a mean community size among the five largest. 看MC图
21C.	○	○	The range for market integration is less than the range for participation in world religions. 看MI 和WR图

Questions 22 is based on the following information

The table displays nutrition data per 240 mL serving for selected cooked or uncooked vegetables: percent water, energy in kilocalories (kcal), protein, total fat, carbohydrate, and total fiber, in grams (g). Each serving consists of 240 mL of finely chopped, raw vegetables (uncooked) or 240 mL of thoroughly drained, steamed vegetables (cooked).

Sort By: Vegetable

Vegetable	Cooked (yes/no)	Percent water	Energy (kcal)	Protein (g)	Total fat (g)	Carbohydrate (g)	Total fiber (g)
Asparagus	yes	92	43	5	1	8	2.9
Beets	yes	87	75	3	trace	17	3.4
Broccoli	yes	91	44	5	1	8	4.5
Broccoli	no	91	25	3	trace	5	2.6
Carrots	yes	87	70	2	trace	16	5.1
Carrots	no	88	47	1	trace	11	3.3
Corn	yes	77	131	5	1	32	3.9
Green beans	yes	89	44	2	trace	10	4.0
Mustard greens	yes	94	21	3	trace	3	2.8
Pak choi	yes	96	20	3	trace	3	2.7
Spinach	yes	91	41	5	trace	7	4.3
Spinach	no	92	7	1	trace	1	0.8
Summer squash	yes	94	36	2	1	8	2.5
Summer squash	no	94	23	1	trace	5	2.1
Sweet green pepper	no	92	40	1	trace	10	2.7

Sort By: Cooked (yes/no)

Vegetable	Cooked (yes/no)	Percent water	Energy (kcal)	Protein (g)	Total fat (g)	Carbohydrate (g)	Total fiber (g)
Broccoli	no	91	25	3	trace	5	2.6
Carrots	no	88	47	1	trace	11	3.3
Spinach	no	92	7	1	trace	1	0.8
Summer squash	no	94	23	1	trace	5	2.1
Sweet green pepper	no	92	40	1	trace	10	2.7
Asparagus	yes	92	43	5	1	8	2.9
Beets	yes	87	75	3	trace	17	3.4
Broccoli	yes	91	44	5	1	8	4.5
Carrots	yes	87	70	2	trace	16	5.1
Corn	yes	77	131	5	1	32	3.9
Green beans	yes	89	44	2	trace	10	4.0
Mustard greens	yes	94	21	3	trace	3	2.8
Pak choi	yes	96	20	3	trace	3	2.7
Spinach	yes	91	41	5	trace	7	4.3
Summer squash	yes	94	36	2	1	8	2.5

A-the median amount of protein for all uncooked vegetables listed if 1/3 the median amount of protein for all cooked vegetables listed.
篮框中是没有cooked，有五个数，先排序，1,1,1,1,3 median=1
剩下10个，median是第5.6的平均数，排序，2，2,，2，3，3，3，5，5，5，5中位数是3.
所以的确是1/3，A正确

Sort By: Percent water

Vegetable	Cooked (yes/no)	Percent water	Energy (kcal)	Protein (g)	Total fat (g)	Carbohydrate (g)	Total fiber (g)
Corn	yes	77	131	5	1	32	3.9
Beets	yes	87	75	3	trace	17	3.4
Carrots	yes	87	70	2	trace	16	5.1
Carrots	no	88	47	1	trace	11	3.3
Green beans	yes	89	44	2	trace	10	4.0
Broccoli	no	91	25	3	trace	5	2.6
Broccoli	yes	91	44	5	1	8	4.5
Spinach	yes	91	41	5	trace	7	4.3
Spinach	no	92	7	1	trace	1	0.8
Sweet green pepper	no	92	40	1	trace	10	2.7
Asparagus	yes	92	43	5	1	8	2.9
Summer squash	no	94	23	1	trace	5	2.1
Mustard greens	yes	94	21	3	trace	3	2.8
Summer squash	yes	94	36	2	1	8	2.5
Pak choi	yes	96	20	3	trace	3	2.7

Sort By: Energy (kcal)

Vegetable	Cooked (yes/no)	Percent water	Energy (kcal)	Protein (g)	Total fat (g)	Carbohydrate (g)	Total fiber (g)
Spinach	no	92	7	1	trace	1	0.8
Pak choi	yes	96	20	3	trace	3	2.7
Mustard greens	yes	94	21	3	trace	3	2.8
Summer squash	no	94	23	1	trace	5	2.1
Broccoli	no	91	25	3	trace	5	2.6
Summer squash	yes	94	36	2	1	8	2.5
Sweet green pepper	no	92	40	1	trace	10	2.7
Spinach	yes	91	41	5	trace	7	4.3
Asparagus	yes	92	43	5	1	8	2.9
Green beans	yes	89	44	2	trace	10	4.0
Broccoli	yes	91	44	5	1	8	4.5
Carrots	no	88	47	1	trace	11	3.3
Carrots	yes	87	70	2	trace	16	5.1
Beets	yes	87	75	3	trace	17	3.4
Corn	yes	77	131	5	1	32	3.9

Sort By: Protein (g)

Vegetable	Cooked (yes/no)	Percent water	Energy (kcal)	Protein (g)	Total fat (g)	Carbohydrate (g)	Total fiber (g)
Spinach	no	92	7	1	trace	1	0.8
Summer squash	no	94	23	1	trace	5	2.1
Sweet green pepper	no	92	40	1	trace	10	2.7
Carrots	no	88	47	1	trace	11	3.3
Summer squash	yes	94	36	2	1	8	2.5
Green beans	yes	89	44	2	trace	10	4.0
Carrots	yes	87	70	2	trace	16	5.1
Pak choi	yes	96	20	3	trace	3	2.7
Mustard greens	yes	94	21	3	trace	3	2.8
Broccoli	no	91	25	3	trace	5	2.6
Beets	yes	87	75	3	trace	17	3.4
Spinach	yes	91	41	5	trace	7	4.3
Asparagus	yes	92	43	5	1	8	2.9
Broccoli	yes	91	44	5	1	8	4.5
Corn	yes	77	131	5	1	32	3.9

Sort By: Total fat (g)

Vegetable	Cooked (yes/no)	Percent water	Energy (kcal)	Protein (g)	Total fat (g)	Carbohydrate (g)	Total fiber (g)
Summer squash	yes	94	36	2	1	8	2.5
Asparagus	yes	92	43	5	1	8	2.9
Broccoli	yes	91	44	5	1	8	4.5
Corn	yes	77	131	5	1	32	3.9
Spinach	no	92	7	1	trace	1	0.8
Summer squash	no	94	23	1	trace	5	2.1
Sweet green pepper	no	92	40	1	trace	10	2.7
Carrots	no	88	47	1	trace	11	3.3
Green beans	yes	89	44	2	trace	10	4.0
Carrots	yes	87	70	2	trace	16	5.1
Pak choi	yes	96	20	3	trace	3	2.7
Mustard greens	yes	94	21	3	trace	3	2.8
Broccoli	no	91	25	3	trace	5	2.6
Beets	yes	87	75	3	trace	17	3.4
Spinach	yes	91	41	5	trace	7	4.3

B-the amount of carbohydrate per serving of cooked corn is exactly 3 times the median amount of carbohydrate perserving for the other 14 vegetable options listed.
两个对比，先找出单独的。
找出cooked corn,图中最后一个，carbohydrate=32
剩下14个，中位数，7.8的平均数，即是8，比较得知，
其实是4倍，所以这说法是错的

Sort By: Carbohydrate (g)

Vegetable	Cooked (yes/no)	Percent water	Energy (kcal)	Protein (g)	Total fat (g)	Carbohydrate (g)	Total fiber (g)
Spinach	no	92	7	1	trace	1	0.8
Pak choi	yes	96	20	3	trace	3	2.7
Mustard greens	yes	94	21	3	trace	3	2.8
Summer squash	no	94	23	1	trace	5	2.1
Broccoli	no	91	25	3	trace	5	2.6
Spinach	yes	91	41	5	trace	7	4.3
Summer squash	yes	94	36	2	1	8	2.5
Asparagus	yes	92	43	5	1	8	2.9
Broccoli	yes	91	44	5	1	8	4.5
Sweet green pepper	no	92	40	1	trace	10	2.7
Green beans	yes	89	44	2	trace	10	4.0
Carrots	no	88	47	1	trace	11	3.3
Carrots	yes	87	70	2	trace	16	5.1
Beets	yes	87	75	3	trace	17	3.4
Corn	yes	77	131	5	1	32	3.9

C-each serving listed for which total fiber is less than 3.0g also has at most 10g of carbohydrate.
定位其中一个变量--total fiber，篮框中的就是小于3.0g的，看有无最大是10g的carbohydate，有就是说C对,没有就错。发现sweet green pepper就是10且是这里中最大的，满足。所以C对的（at most 注意是“至多”意思

Sort By: Total fiber (g)

Vegetable	Cooked (yes/no)	Percent water	Energy (kcal)	Protein (g)	Total fat (g)	Carbohydrate (g)	Total fiber (g)
Spinach	no	92	7	1	trace	1	0.8
Summer squash	no	94	23	1	trace	5	2.1
Summer squash	yes	94	36	2	1	8	2.5
Broccoli	no	91	25	3	trace	5	2.6
Pak choi	yes	96	20	3	trace	3	2.7
Sweet green pepper	no	92	40	1	trace	10	2.7
Mustard greens	yes	94	21	3	trace	3	2.8
Asparagus	yes	92	43	5	1	8	2.9
Carrots	no	88	47	1	trace	11	3.3
Beets	yes	87	75	3	trace	17	3.4
Corn	yes	77	131	5	1	32	3.9
Green beans	yes	89	44	2	trace	10	4.0
Spinach	yes	91	41	5	trace	7	4.3
Broccoli	yes	91	44	5	1	8	4.5
Carrots	yes	87	70	2	trace	16	5.1

Questions 22

For each of the following statements, select *Yes* if the statement is true based on the information provided; otherwise select *No*.

	Yes	No	定位cook（yes/no)图
22A.	○	○	The median amount of protein for all uncooked vegetables listed is $\frac{1}{3}$ the median amount of protein for all cooked vegetables listed.
22B.	○	○	The amount of carbohydrate per serving of cooked corn is exactly 3 times the median amount of carbohydrate per serving for the other 14 vegetable options listed. 定位carbohydrate图
22C.	○	○	Each serving listed for which total fiber is less than 3.0 g also has at most 10 g of carbohydrate. 定位TF图

Questions 23 is based on the following information

The table shows the top 15 universities in a recent international ranking of programs in physics and astronomy. Each university was assigned a score on a 100-point scale in each of several categories, from which a total score on a 100-point scale was computed. For each university the table displays the total score, together with the scores in 3 categories: *academic*, based on evaluation by academics at other universities; *employer*, based on evaluation by companies that recruit university graduates; and *citations*, based on the frequency with which faculty research is cited.

Sort By: Rank

Rank	University	Country	Academic score	Employer score	Citations score	Total score
1	University of Cambridge	United Kingdom	100.0	100.0	41.3	82.4
2	Harvard University	United States	91.6	78.0	53.8	77.5
3	University of Oxford	United Kingdom	91.6	75.7	39.9	72.9
4	Massachusetts Institute of Technology (MIT)	United States	97.4	61.2	39.5	72.8
5	University of California, Berkley (UCB)	United States	90.8	48.5	45.2	68.7
6	Stanford University	United States	81.7	38.4	53.0	64.4
7	California Institute of Technology (Caltech)	United States	81.5	40.7	39.2	60.7
8	Imperial College London	United Kingdom	70.2	63.8	33.2	57.8
9	Princeton University	United States	76.4	30.3	44.1	57.5
10	ETH Zürich (Swiss Federal Institute of Technology)	Switzerland	69.6	42.2	46.9	57.3
11	University of Tokyo	Japan	79.7	34.6	22.7	53.6
12	University of Chicago	United States	57.1	34.4	53.3	51.4
13	University of California, Los Angeles (UCLA)	United States	55.9	51.3	43.0	51.1
14	University of Melbourne	Australia	46.6	41.5	64.4	50.9
15	Columbia University	United States	46.2	44.0	61.9	50.5

A-从第一个图第一所学校就能反驳：for each of US university ,ES<TS but, the 1st one ES=100>TS=82.5

Sort By: University

Rank	University	Country	Academic score	Employer score	Citations score	Total score
7	California Institute of Technology (Caltech)	United States	81.5	40.7	39.2	60.7
15	Columbia University	United States	46.2	44.0	61.9	50.5
10	ETH Zürich (Swiss Federal Institute of Technology)	Switzerland	69.6	42.2	46.9	57.3
2	Harvard University	United States	91.6	78.0	53.8	77.5
8	Imperial College London	United Kingdom	70.2	63.8	33.2	57.8
4	Massachusetts Institute of Technology (MIT)	United States	97.4	61.2	39.5	72.8
9	Princeton University	United States	76.4	30.3	44.1	57.5
6	Stanford University	United States	81.7	38.4	53.0	64.4
5	University of California, Berkley (UCB)	United States	90.8	48.5	45.2	68.7
13	University of California, Los Angeles (UCLA)	United States	55.9	51.3	43.0	51.1
1	University of Cambridge	United Kingdom	100.0	100.0	41.3	82.4
12	University of Chicago	United States	57.1	34.4	53.3	51.4
14	University of Melbourne	Australia	46.6	41.5	64.4	50.9
3	University of Oxford	United Kingdom	91.6	75.7	39.9	72.9
11	University of Tokyo	Japan	79.7	34.6	22.7	53.6

Sort By: Country

Rank	University	Country	Academic score	Employer score	Citations score	Total score
14	University of Melbourne	Australia	46.6	41.5	64.4	50.9
11	University of Tokyo	Japan	79.7	34.6	22.7	53.6
10	ETH Zürich (Swiss Federal Institute of Technology)	Switzerland	69.6	42.2	46.9	57.3
8	Imperial College London	United Kingdom	70.2	63.8	33.2	57.8
1	University of Cambridge	United Kingdom	100.0	100.0	41.3	82.4
3	University of Oxford	United Kingdom	91.6	75.7	39.9	72.9
7	California Institute of Technology (Caltech)	United States	81.5	40.7	39.2	60.7
15	Columbia University	United States	46.2	44.0	61.9	50.5
2	Harvard University	United States	91.6	78.0	53.8	77.5
4	Massachusetts Institute of Technology (MIT)	United States	97.4	61.2	39.5	72.8
9	Princeton University	United States	76.4	30.3	44.1	57.5
6	Stanford University	United States	81.7	38.4	53.0	64.4
5	University of California, Berkley (UCB)	United States	90.8	48.5	45.2	68.7
13	University of California, Los Angeles (UCLA)	United States	55.9	51.3	43.0	51.1
12	University of Chicago	United States	57.1	34.4	53.3	51.4

Sort By: Academic score

Rank	University	Country	Academic score	Employer score	Citations score	Total score
15	Columbia University	United States	46.2	44.0	61.9	50.5
14	University of Melbourne	Australia	46.6	41.5	64.4	50.9
13	University of California, Los Angeles (UCLA)	United States	55.9	51.3	43.0	51.1
12	University of Chicago	United States	57.1	34.4	53.3	51.4
10	ETH Zürich (Swiss Federal Institute of Technology)	Switzerland	69.6	42.2	46.9	57.3
8	Imperial College London	United Kingdom	70.2	63.8	33.2	57.8
9	Princeton University	United States	76.4	30.3	44.1	57.5
11	University of Tokyo	Japan	79.7	34.6	22.7	53.6
7	California Institute of Technology (Caltech)	United States	81.5	40.7	39.2	60.7
6	Stanford University	United States	81.7	38.4	53.0	64.4
5	University of California, Berkley (UCB)	United States	90.8	48.5	45.2	68.7
3	University of Oxford	United Kingdom	91.6	75.7	39.9	72.9
2	Harvard University	United States	91.6	78.0	53.8	77.5
4	Massachusetts Institute of Technology (MIT)	United States	97.4	61.2	39.5	72.8
1	University of Cambridge	United Kingdom	100.0	100.0	41.3	82.4

Sort By: Employer score

Rank	University	Country	Academic score	Employer score	Citations score	Total score
9	Princeton University	United States	76.4	30.3	44.1	57.5
12	University of Chicago	United States	57.1	34.4	53.3	51.4
11	University of Tokyo	Japan	79.7	34.6	22.7	53.6
6	Stanford University	United States	81.7	38.4	53.0	64.4
7	California Institute of Technology (Caltech)	United States	81.5	40.7	39.2	60.7
14	University of Melbourne	Australia	46.6	41.5	64.4	50.9
10	ETH Zürich (Swiss Federal Institute of Technology)	Switzerland	69.6	42.2	46.9	57.3
15	Columbia University	United States	46.2	44.0	61.9	50.5
5	University of California, Berkley (UCB)	United States	90.8	48.5	45.2	68.7
13	University of California, Los Angeles (UCLA)	United States	55.9	51.3	43.0	51.1
4	Massachusetts Institute of Technology (MIT)	United States	97.4	61.2	39.5	72.8
8	Imperial College London	United Kingdom	70.2	63.8	33.2	57.8
3	University of Oxford	United Kingdom	91.6	75.7	39.9	72.9
2	Harvard University	United States	91.6	78.0	53.8	77.5
1	University of Cambridge	United Kingdom	100.0	100.0	41.3	82.4

要找到ES.CS都大于50.先定位一个，再找另一个。篮框里面的是ES50以上，在看篮框中的CS，只有一个50以上。。harvard university，符合B中所说的只有一所学校满足条件。

Sort By: Citations score

Rank	University	Country	Academic score	Employer score	Citations score	Total score
11	University of Tokyo	Japan	79.7	34.6	22.7	53.6
8	Imperial College London	United Kingdom	70.2	63.8	33.2	57.8
7	California Institute of Technology (Caltech)	United States	81.5	40.7	39.2	60.7
4	Massachusetts Institute of Technology (MIT)	United States	97.4	61.2	39.5	72.8
3	University of Oxford	United Kingdom	91.6	75.7	39.9	72.9
1	University of Cambridge	United Kingdom	100.0	100.0	41.3	82.4
13	University of California, Los Angeles (UCLA)	United States	55.9	51.3	43.0	51.1
9	Princeton University	United States	76.4	30.3	44.1	57.5
5	University of California, Berkley (UCB)	United States	90.8	48.5	45.2	68.7
10	ETH Zürich (Swiss Federal Institute of Technology)	Switzerland	69.6	42.2	46.9	57.3
6	Stanford University	United States	81.7	38.4	53.0	64.4
12	University of Chicago	United States	57.1	34.4	53.3	51.4
2	Harvard University	United States	91.6	78.0	53.8	77.5
15	Columbia University	United States	46.2	44.0	61.9	50.5
14	University of Melbourne	Australia	46.6	41.5	64.4	50.9

Sort By: Total score

Rank	University	Country	Academic score	Employer score	Citations score	Total score
15	Columbia University	United States	46.2	44.0	61.9	50.5
14	University of Melbourne	Australia	46.6	41.5	64.4	50.9
13	University of California, Los Angeles (UCLA)	United States	55.9	51.3	43.0	51.1
12	University of Chicago	United States	57.1	34.4	53.3	51.4
11	University of Tokyo	Japan	79.7	34.6	22.7	53.6
10	ETH Zürich (Swiss Federal Institute of Technology)	Switzerland	69.6	42.2	46.9	57.3
9	Princeton University	United States	76.4	30.3	44.1	57.5
8	Imperial College London	United Kingdom	70.2	63.8	33.2	57.8
7	California Institute of Technology (Caltech)	United States	81.5	40.7	39.2	60.7
6	Stanford University	United States	81.7	38.4	53.0	64.4
5	University of California, Berkley (UCB)	United States	90.8	48.5	45.2	68.7
4	Massachusetts Institute of Technology (MIT)	United States	97.4	61.2	39.5	72.8
3	University of Oxford	United Kingdom	91.6	75.7	39.9	72.9
2	Harvard University	United States	91.6	78.0	53.8	77.5
1	University of Cambridge	United Kingdom	100.0	100.0	41.3	82.4

Questions 23

For each of the following statements, select *Yes* if the statement is true based on the information provided; otherwise select *No*.

	Yes	No	
23A.	○	●	For each of the United States universities listed, the employer score is less than the total score. 第一个图中就看出结果。
23B.	●	○	For only one university listed, the employer score and the citations score are both greater than 50. 看employer score/citations的表
23C.	●	○	University of Tokyo is the university for which the magnitude of the difference between the academic score and the total score is greatest.

tokyo AS--TS：79.7---53.6相隔 26.1,定位TS图比较好对比。察看其他学校两个只差，发现都没有它大，所以C所的是正确的。

Questions 24 is based on the following information

The table lists data on the 22 earthquakes of magnitude 7 or greater on the Richter Scale during a recent year. Times are given in hours, minutes, and seconds on the 24-hour Greenwich Mean Time (GMT) clock and correspond to standard time at Greenwich, United Kingdom (UK). Latitude, measured in degrees, is 0 at the equator, increases from 0 to 90 proceeding northward to the North Pole, and decreases from 0 to –90 proceeding southward to the South Pole. Longitude, also measured in degrees, is 0 at Greenwich, UK, increases from 0 to 180 from west to east in the Eastern Hemisphere, and decreases from 0 to –180 from east to west in the Western Hemisphere.

Sort By: Date

Date	Time (GMT)	Magnitude	Depth (km)	Latitude	Longitude
3 January	22:36:28	7.1	25	–8.799	157.346
12 January	21:53:10	7.0	13	18.443	–72.571
26 February	20:31:27	7.0	25	25.930	128.425
27 February	06:34:12	8.8	23	–36.122	–72.898
4 April	22:40:43	7.2	4	32.297	–115.278
6 April	22:15:02	7.8	31	2.383	97.048
9 May	05:59:42	7.2	38	3.748	96.018
27 May	17:14:47	7.1	31	–13.698	166.643
12 June	19:26:50	7.5	35	7.881	91.936
16 June	03:16:28	7.0	18	–2.174	136.543
18 July	13:34:59	7.3	35	–5.931	150.590
23 July	22:08:11	7.3	607	6.718	123.409
23 July	22:51:12	7.6	586	6.486	123.467
23 July	23:15:10	7.4	641	6.776	123.259
4 August	22:01:44	7.0	44	–5.746	150.765
10 August	05:23:45	7.3	25	–17.541	168.069
12 August	11:54:16	7.1	207	–1.266	-77.306
3 September	16:35:48	7.0	12	–43.522	171.830
29 September	17:11:26	7.0	26	–4.963	133.760
25 October	14:42:22	7.8	20	–3.487	100.082
21 December	17:19:41	7.4	14	26.901	143.698
25 December	13:16:37	7.3	16	–19.702	167.947

Sort By: Time (GMT)

Date	Time (GMT)	Magnitude	Depth (km)	Latitude	Longitude
16 June	03:16:28	7.0	18	–2.174	136.543
10 August	05:23:45	7.3	25	–17.541	168.069
9 May	05:59:42	7.2	38	3.748	96.018
27 February	06:34:12	8.8	23	–36.122	–72.898
12 August	11:54:16	7.1	207	–1.266	–77.306
25 December	13:16:37	7.3	16	–19.702	167.947
18 July	13:34:59	7.3	35	–5.931	150.590
25 October	14:42:22	7.8	20	–3.487	100.082
3 September	16:35:48	7.0	12	–43.522	171.830
29 September	17:11:26	7.0	26	–4.963	133.760
27 May	17:14:47	7.1	31	–13.698	166.643
21 December	17:19:41	7.4	14	26.901	143.698
12 June	19:26:50	7.5	35	7.881	91.936
26 February	20:31:27	7.0	25	25.930	128.425
12 January	21:53:10	7.0	13	18.443	–72.571
4 August	22:01:44	7.0	44	–5.746	150.765
23 July	22:08:11	7.3	607	6.718	123.409
6 April	22:15:02	7.8	31	2.383	97.048
3 January	22:36:28	7.1	25	–8.799	157.346
4 April	22:40:43	7.2	4	32.297	–115.278
23 July	22:51:12	7.6	586	6.486	123.467
23 July	23:15:10	7.4	641	6.776	123.259

10到20间就是篮框中的9个。（总数22）不到一半--所以错

Sort By: Magnitude

Date	Time (GMT)	Magnitude	Depth (km)	Latitude	Longitude
12 January	21:53:10	7.0	13	18.443	–72.571
26 February	20:31:27	7.0	25	25.930	128.425
16 June	03:16:28	7.0	18	–2.174	136.543
4 August	22:01:44	7.0	44	–5.746	150.765
3 September	16:35:48	7.0	12	–43.522	171.830
29 September	17:11:26	7.0	26	–4.963	133.760
3 January	22:36:28	7.1	25	–8.799	157.346
27 May	17:14:47	7.1	31	–13.698	166.643
12 August	11:54:16	7.1	207	–1.266	–77.306
4 April	22:40:43	7.2	4	32.297	–115.278
9 May	05:59:42	7.2	38	3.748	96.018
18 July	13:34:59	7.3	35	–5.931	150.590
23 July	22:08:11	7.3	607	6.718	123.409
10 August	05:23:45	7.3	25	–17.541	168.069
25 December	13:16:37	7.3	16	–19.702	167.947
23 July	23:15:10	7.4	641	6.776	123.259
21 December	17:19:41	7.4	14	26.901	143.698
12 June	19:26:50	7.5	35	7.881	91.936
23 July	22:51:12	7.6	586	6.486	123.467
6 April	22:15:02	7.8	31	2.383	97.048
25 October	14:42:22	7.8	20	–3.487	100.082
27 February	06:34:12	8.8	23	–36.122	–72.898

Sort By: Depth (km)

Date	Time (GMT)	Magnitude	Depth (km)	Latitude	Longitude
4 April	22:40:43	7.2	4	32.297	–115.278
3 September	16:35:48	7.0	12	–43.522	171.830
12 January	21:53:10	7.0	13	18.443	–72.571
21 December	17:19:41	7.4	14	26.901	143.698
25 December	13:16:37	7.3	16	–19.702	167.947
16 June	03:16:28	7.0	18	–2.174	136.543
25 October	14:42:22	7.8	20	–3.487	100.082
27 February	06:34:12	8.8	23	–36.122	–72.898
3 January	22:36:28	7.1	25	–8.799	157.346
26 February	20:31:27	7.0	25	25.930	128.425
10 August	05:23:45	7.3	25	–17.541	168.069
29 September	17:11:26	7.0	26	–4.963	133.760
6 April	22:15:02	7.8	31	2.383	97.048
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9 May	05:59:42	7.2	38	3.748	96.018
4 August	22:01:44	7.0	44	–5.746	150.765
12 August	11:54:16	7.1	207	–1.266	–77.306
23 July	22:51:12	7.6	586	6.486	123.467
23 July	22:08:11	7.3	607	6.718	123.409
23 July	23:15:10	7.4	641	6.776	123.259

24
A--depth问题
只看这个表
22个，中位数是第11.12和的平均数。
所以中位数=（25+26）/2
=25.5
mean-平均数，计算器算。111.4
所以mean要比median大的多。
其实只要看到depth后面有上几百的数字，,而，中位数，只是很小的两位数，直接不用算就可以得出，平均数一定大于中位数。---对的

Sort By: Latitude

Date	Time (GMT)	Magnitude	Depth (km)	Latitude	Longitude
3 September	16:35:48	7.0	12	–43.522	171.830
27 February	06:34:12	8.8	23	–36.122	–72.898
25 December	13:16:37	7.3	16	–19.702	167.947
10 August	05:23:45	7.3	25	–17.541	168.069
27 May	17:14:47	7.1	31	–13.698	166.643
3 January	22:36:28	7.1	25	–8.799	157.346
18 July	13:34:59	7.3	35	–5.931	150.590
4 August	22:01:44	7.0	44	–5.746	150.765
29 September	17:11:26	7.0	26	–4.963	133.760
25 October	14:42:22	7.8	20	–3.487	100.082
16 June	03:16:28	7.0	18	–2.174	136.543
12 August	11:54:16	7.1	207	–1.266	–77.306
6 April	22:15:02	7.8	31	2.383	97.048
9 May	05:59:42	7.2	38	3.748	96.018
23 July	22:51:12	7.6	586	6.486	123.467
23 July	22:08:11	7.3	607	6.718	123.409
23 July	23:15:10	7.4	641	6.776	123.259
12 June	19:26:50	7.5	35	7.881	91.936
12 January	21:53:10	7.0	13	18.443	–72.571
26 February	20:31:27	7.0	25	25.930	128.425
21 December	17:19:41	7.4	14	26.901	143.698
4 April	22:40:43	7.2	4	32.297	–115.278

latitude:
负数为south（12）
正数为north（10）
一共22
north不到一半。所以错

Sort By: Longitude

Date	Time (GMT)	Magnitude	Depth (km)	Latitude	Longitude
4 April	22:40:43	7.2	4	32.297	–115.278
12 August	11:54:16	7.1	207	–1.266	–77.306
27 February	06:34:12	8.8	23	–36.122	–72.898
12 January	21:53:10	7.0	13	18.443	–72.571
12 June	19:26:50	7.5	35	7.881	91.936
9 May	05:59:42	7.2	38	3.748	96.018
6 April	22:15:02	7.8	31	2.383	97.048
25 October	14:42:22	7.8	20	–3.487	100.082
23 July	23:15:10	7.4	641	6.776	123.259
23 July	22:08:11	7.3	607	6.718	123.409
23 July	22:51:12	7.6	586	6.486	123.467
26 February	20:31:27	7.0	25	25.930	128.425
29 September	17:11:26	7.0	26	–4.963	133.760
16 June	03:16:28	7.0	18	–2.174	136.543
21 December	17:19:41	7.4	14	26.901	143.698
18 July	13:34:59	7.3	35	–5.931	150.590
4 August	22:01:44	7.0	44	–5.746	150.765
3 January	22:36:28	7.1	25	–8.799	157.346
27 May	17:14:47	7.1	31	–13.698	166.643
25 December	13:16:37	7.3	16	–19.702	167.947
10 August	05:23:45	7.3	25	–17.541	168.069
3 September	16:35:48	7.0	12	–43.522	171.830

Questions 24

For each of the following statements, select *Yes* if the statement is true based on the information provided; otherwise select *No*.

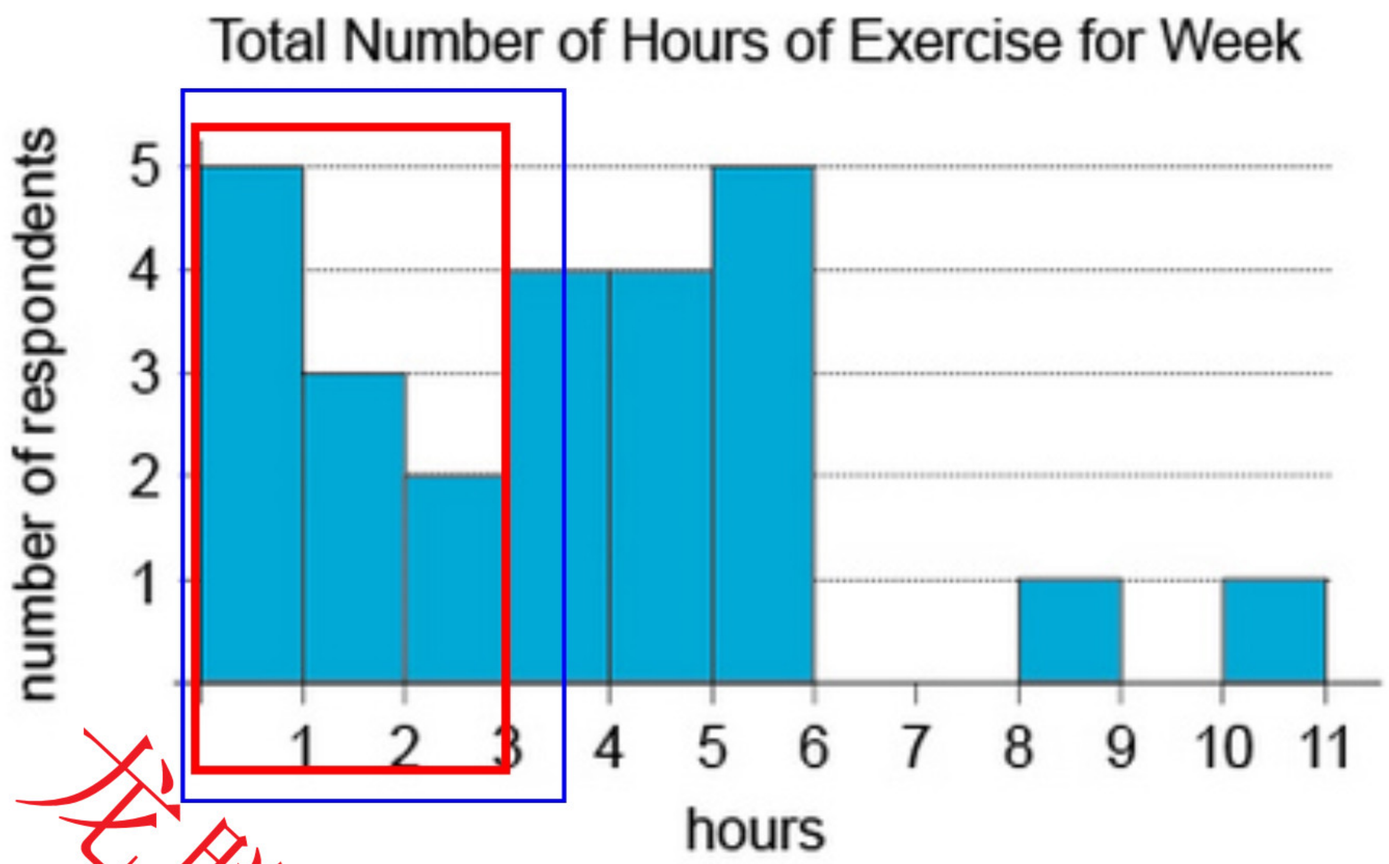
	Yes	No	
24A.	○	○	For the 22 earthquakes, the arithmetic mean of the depths is greater than the median of the depths.
24B.	○	○	More than half of the 22 earthquakes occurred north of the equator.
24C.	○	○	Exactly half of the earthquakes listed occurred between 10:00:00 and 20:00:00 GMT.

察看depth图

察看latitude图

察看GMT图

Questions 25 is based on the following information



Twenty-five adults reported the amount of time each spent exercising during a particular week. The results are summarized in the graph as follows: 5 respondents reported exercising for less than 1 hour, 3 respondents reported exercising for at least 1 hour but less than 2, and so on.

Based on the given information, use the drop-down menus to most accurately complete the following statements.

Questions 25

25A. The least possible value for the mean of the numbers of hours of exercise reported for the week is Select... .

- 3
- 3.12
- 3.48
- 3.98

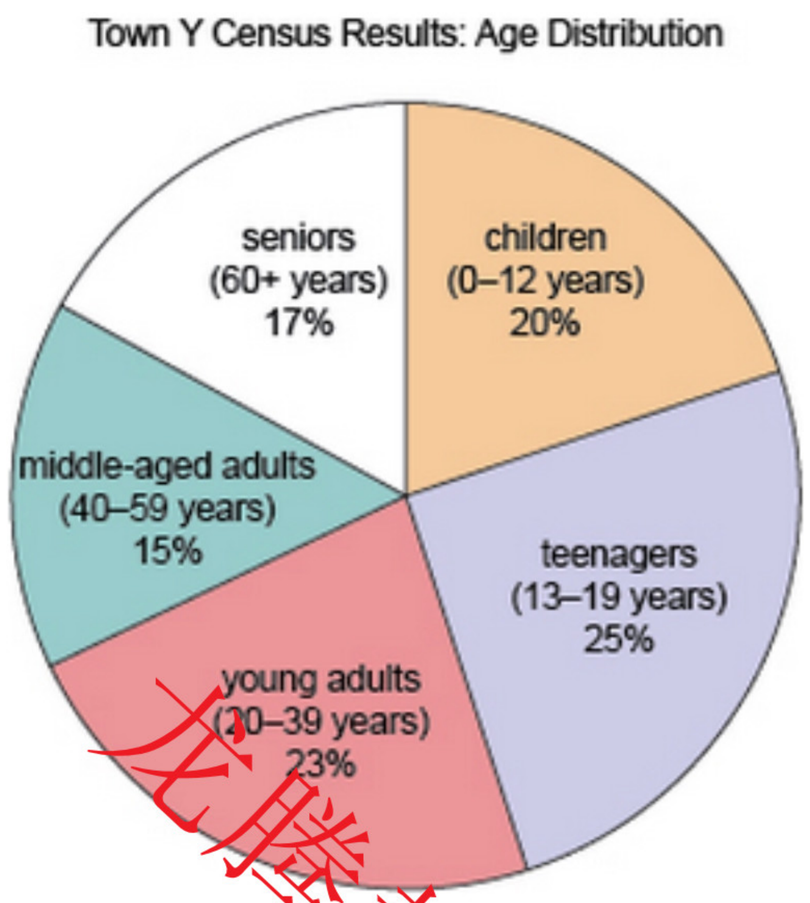
总时间：
5*0+3*1+2*2+4*3+4*4+5*5+1*8+1*10=78
numbers of people:5+3+2+4+4+5+1+1=25
78/25=3.12

25B. The number of respondents who exercised on average less than one-half hour per day during the week is between Select..., inclusive.

- 0 and 5
- 5 and 8
- 8 and 10
- 10 and 14
- 14 and 19

on-half ===指半小时，每天小于半小时，那么每周小于3.5小时，就是红框框的是最小（5+3+2=10），蓝框最大（5+3+2+4=14）

Questions 26 is based on the following information



A recent census revealed the age distribution of the residents of Town Y, shown in the graph. Since the census was performed, no resident has moved into or away from Town Y and there have been no recorded births or deaths.

Based on the given information, use the drop-down menus to most accurately complete the following statements.

Questions 26

26A. The census indicates that Select... times as many residents were children or teenagers as were seniors.

- 1.17
- 1.47
- 2.65
- 3.00

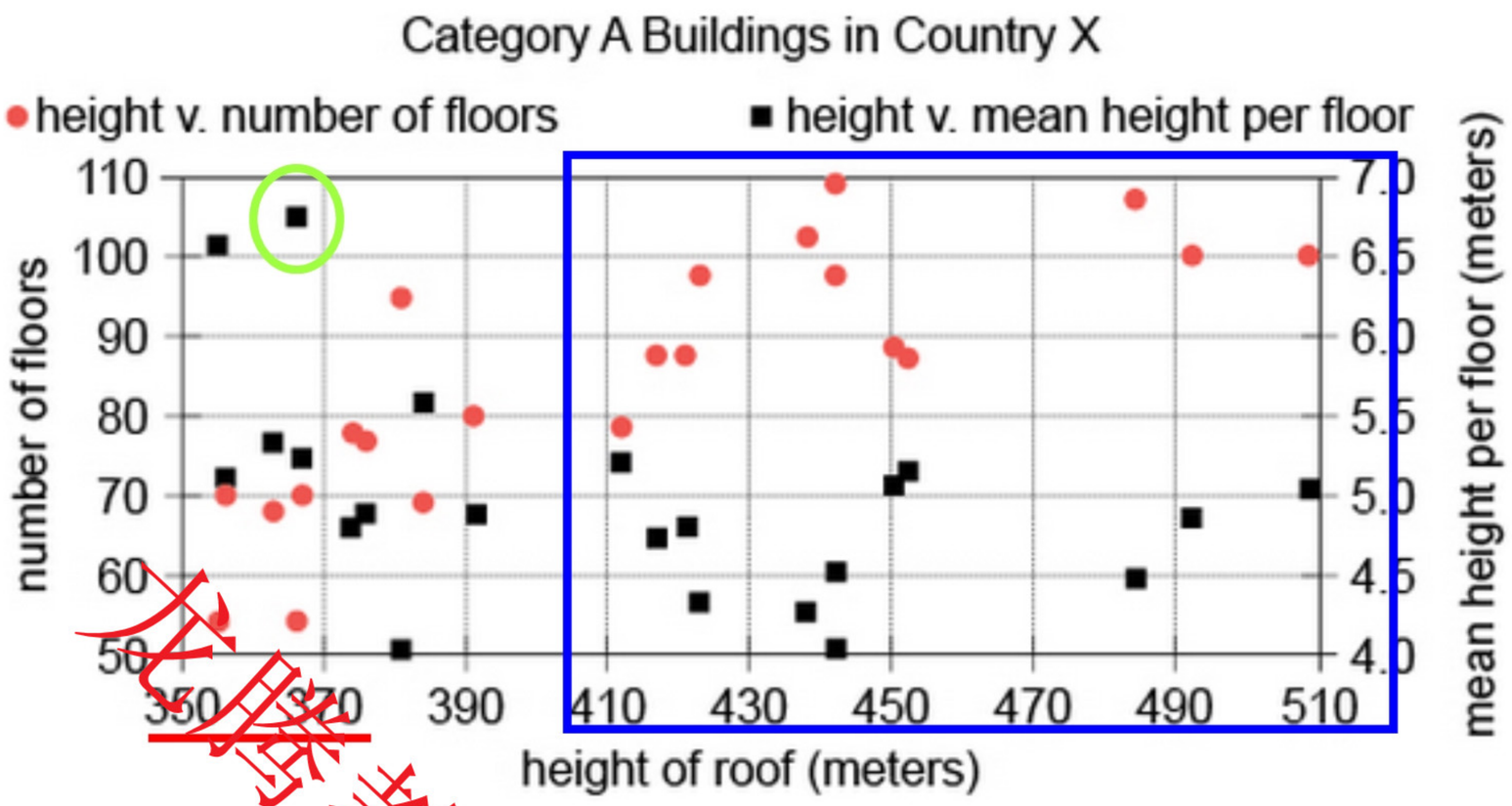
children:20%
teenagers:25%
seniors:17%
题目问的是，(把总体看做100)
（20+25）/27=2.65

26B. If, at the time of the census, there were 540 more people aged 0-39 than people aged 40 or greater, then the population of Town Y at the time of the census was Select... .

- 1,080
- 1,500
- 2,400
- 4,000

设town Y有Y人。
0-39:占（20+25+23）%=68%
40以上占（15+17）%=32%
列出式子：
（68%-32%）Y=540
36%Y=540
Y=1500

Questions 27 is based on the following information



In Country X, a building is in Category A if it has a roof height of at least 350 meters. In the graph, each of the 22 Category A buildings is represented by two points arranged vertically: one representing the comparison of the height of the building's roof to the number of floors (red circles), the other representing the comparison of the height of the building's roof to the mean height per floor (black squares).

Based on the given information, use the drop-down menus to most accurately complete the following statements about Category A buildings in Country X.

Questions 27

27A. The building with the greatest mean height per floor has a roof height between [Select...] meters.

- 350 and 370
- 430 and 450
- 470 and 490
- 490 and 510

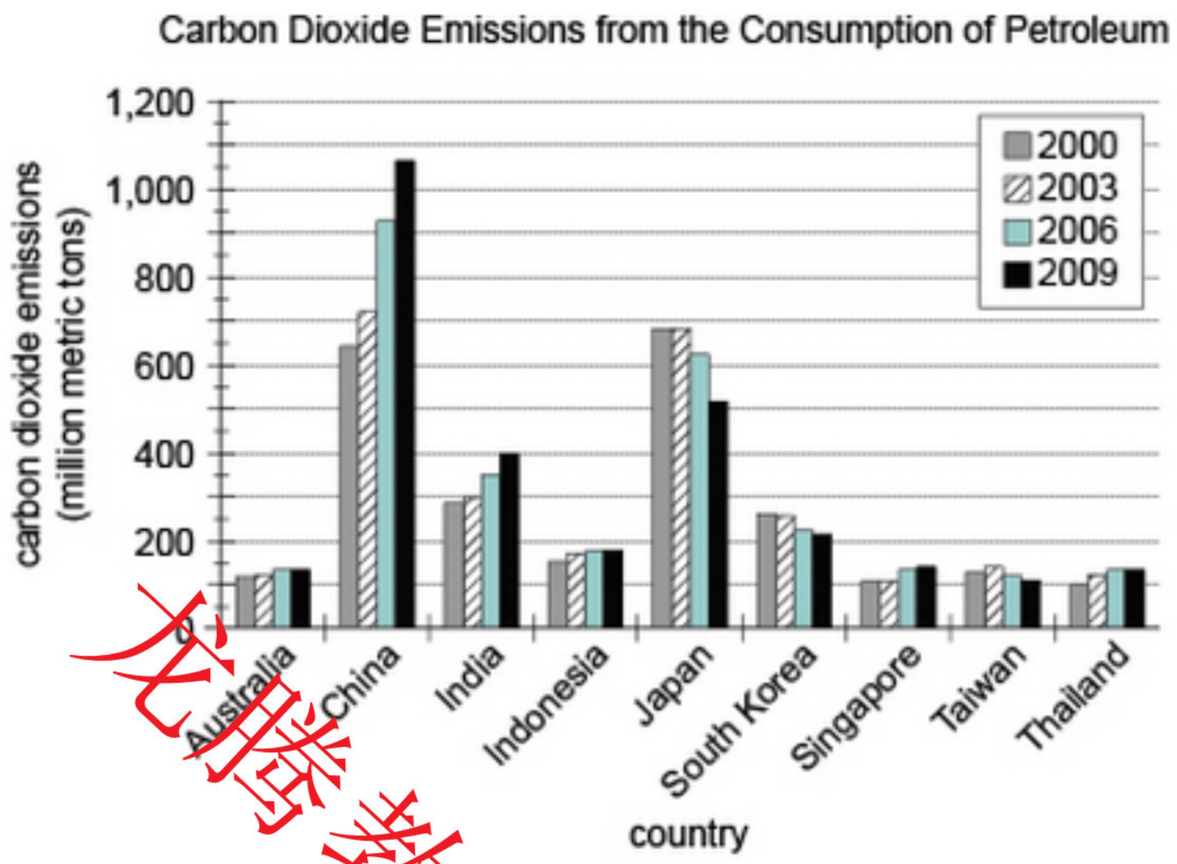
就是绿色圈住的那个点，

27B. There is a [Select...] correlation between the number of floors and the mean height per floor.

- strong positive
- negligible
- strong negative

篮框那部分比较明显，
呈负相关

Questions 28 is based on the following information



For each of the years 2000, 2003, 2006, and 2009, the graph shows the carbon dioxide emissions produced by the consumption of petroleum for 9 countries. Emissions are measured in millions of metric tons of carbon dioxide, where 1 million = 10^6.

From each drop-down menu, select the option that creates the most accurate statement based on the information provided.

Questions 28

28A. Median carbon dioxide emissions for the 9 countries increased by [Select...] million metric tons from 2000 to 2009.

- less than 50
- at least 50 but less than 100
- at least 100

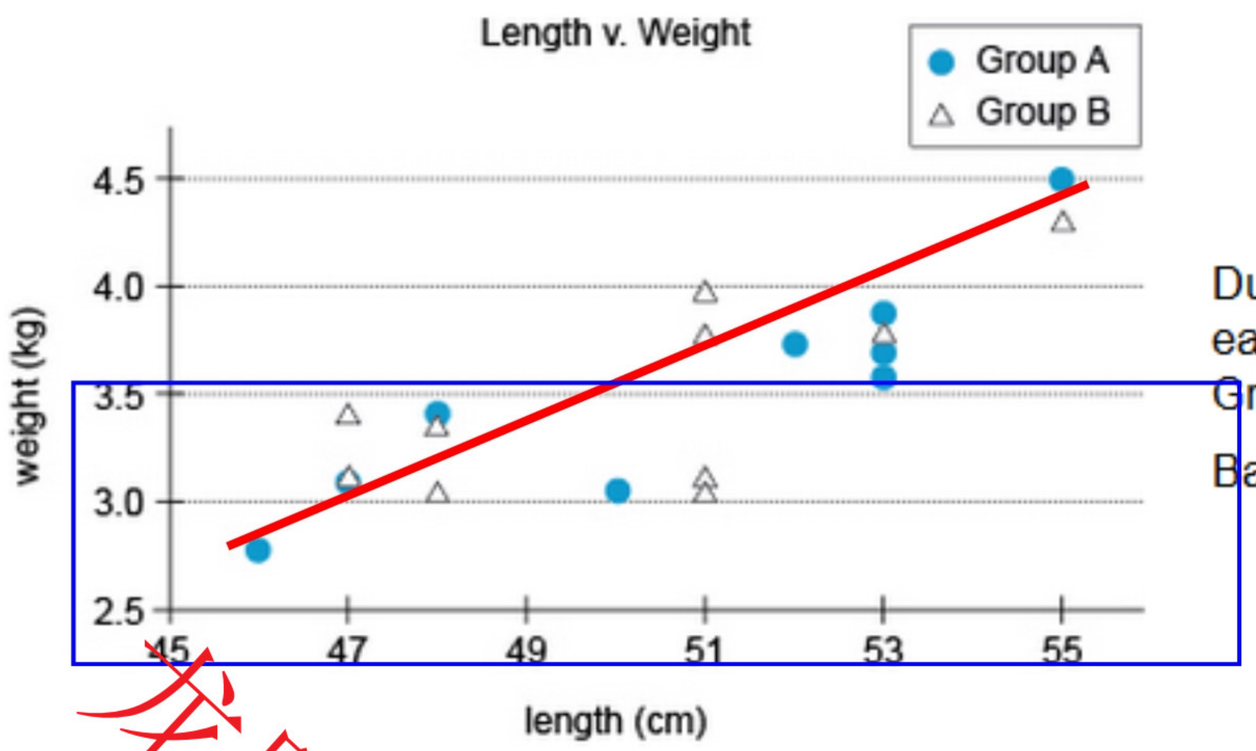
9个城市，那么中间数median是第五个，从低到高，大概是indonesia，它从2000到2009增长很小，less than 50毫无疑问

28B. In 2006, the range of carbon dioxide emissions for the 9 countries was approximately [Select...] million metric tons.

- 600
- 800
- 950
- 1,050

2006年，直接看蓝色，range找最大最小，
最大china=910
最小singapore=110
910-110=800

Questions 29 is based on the following information



During a four-day period, a height measurement and a weight measurement were recorded shortly after delivery for each baby born in a particular hospital. The 19 babies in the study were divided into two groups, Group A and Group B. The chart shows the length, in centimeters (cm), and weight, in kilograms (kg), for each of the 19 babies.

Based on the given information, use the drop-down menus to most accurately complete the following statements.

Questions 29

29A. The correlation between length and weight for the babies in the study is Select... .

- strongly positive
- negligible
- strongly negative

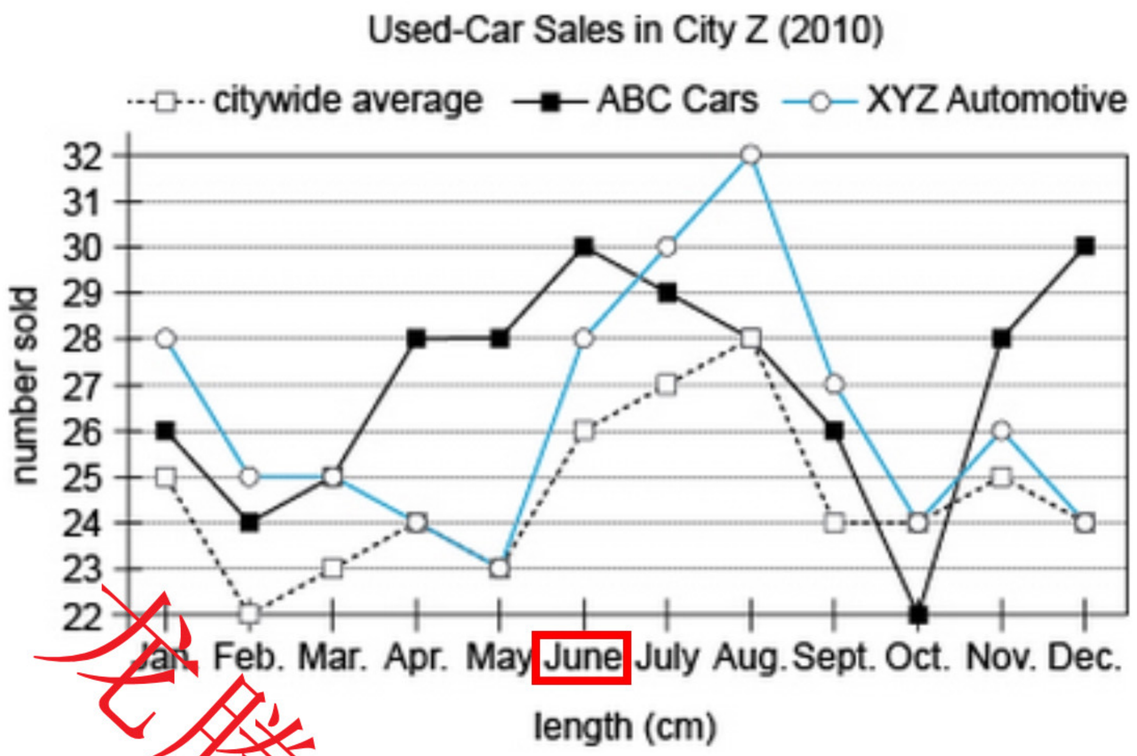
基本来说，图中的点大部分都在在红色线左右，也就是说两者之间呈正相关关系

29B. If a baby with weight less than 3.5 kg were selected at random, the probability that the baby would be a part of Group A is Select... .

- 0.33
- 0.40
- 0.44
- 0.60
- 0.67

由图点可知，weight小于3.5,一共有10个，蓝色GA有4个，三角GB有6个-----4/10=0.4

Questions 30 is based on the following information



In 2010, there were four used-car dealers in City Z. The graphic shows the monthly sales data for 2010 for two of those dealers as well as the citywide average for used-car dealers for those months.

Based on the given information, use the drop-down menus to most accurately complete the following statements.

Questions 30

30A. ABC Cars and XYZ Automotive accounted for [Select...] half of all used-car sales in City Z for 2010.

- less than
- exactly
- more than

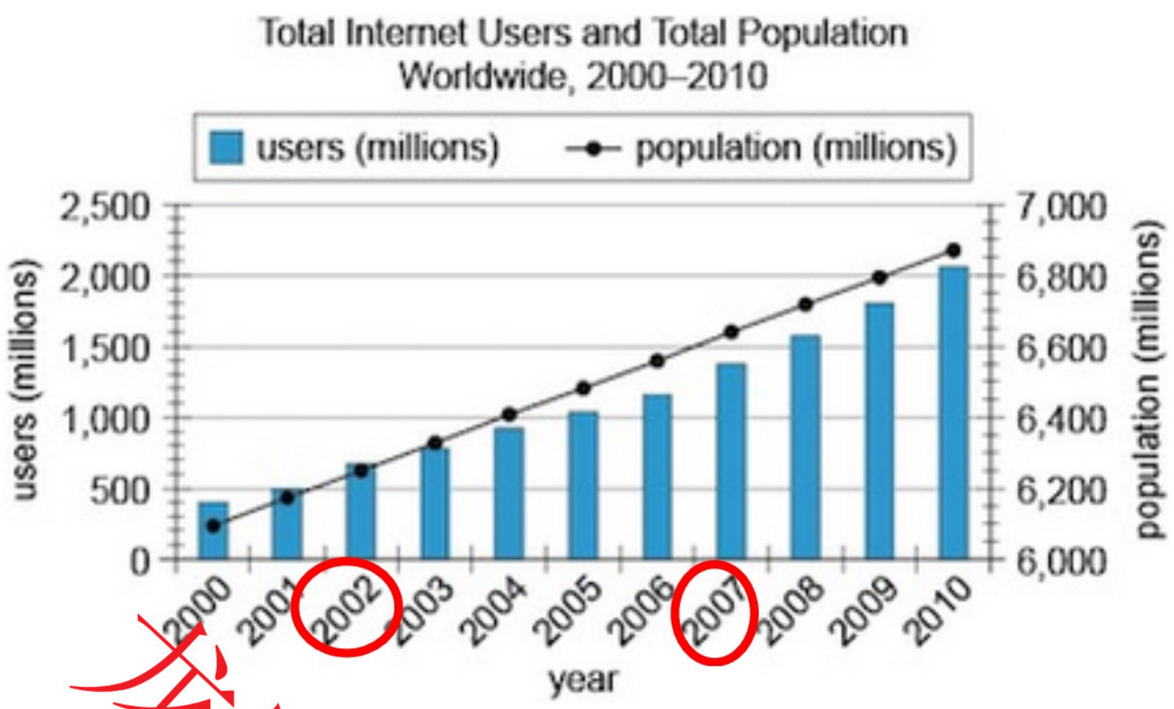
黑色的和黑色的两个折线几乎都在虚线的（average)之上，那么可以看出都more than average sales

30B. In June 2010, the two used-car dealers that are not specified on the graph sold a total of exactly [Select...] cars.

- 23
- 46
- 52
- 58

city wide average:26
这说明总共的4个dealers卖出4*26=104
xyz automotive:28
abc cars:30
不是图中标示的两个dealer卖出：104-28-30=46

Questions 31 is based on the following information



The graph shows the total number of Internet users and the total population worldwide for each of the years 2000–2010.

From each drop-down menu, select the option that creates the most accurate statement based on the information provided.

Questions 31

31A. The percent increase in the total number of Internet users from 2002 to 2007 was approximately Select... %.

- 50
- 100
- 200
- 300

Internet users 看蓝色柱状图2002 大概700,2007大概1400,
（1400-700）/700=1----100%

31B. The number of Internet users per 100 people increased by approximately Select... from 2000 to 2010.

- 6
- 12
- 24
- 30
- 36

单位相同（million）2000：
population=6100
users=400
2010:
population=6900
users=2000
每100人使用人数：
2000:-----(400/6100)*100=6.6
2010:----(2000/6900)*100=29
2000-2010:29-6.6=22.4选择最接近答案24.

Questions 32 is based on the following information

On Days 1 through 4 of a recent week, Product X was out of stock at Retailer R. *Day 1 shoppers* are those shoppers who came to Retailer R on Day 1 of that week seeking Product X. For each of the first 3 days of that week, the graph shows the subsequent behavior of all the Day 1 shoppers who came to Retailer R seeking Product X on that day. Shoppers at Retailer R who purchased a different item in lieu of Product X paid an average of 30% more for the item.

From each drop-down menu, select the option that creates the most accurate statement based on the information provided.

Questions 32

32A. Select... % of Day 1 shoppers returned to the store on Day 3.

- Fewer than 1
- Between 1 and 10
- More than 10

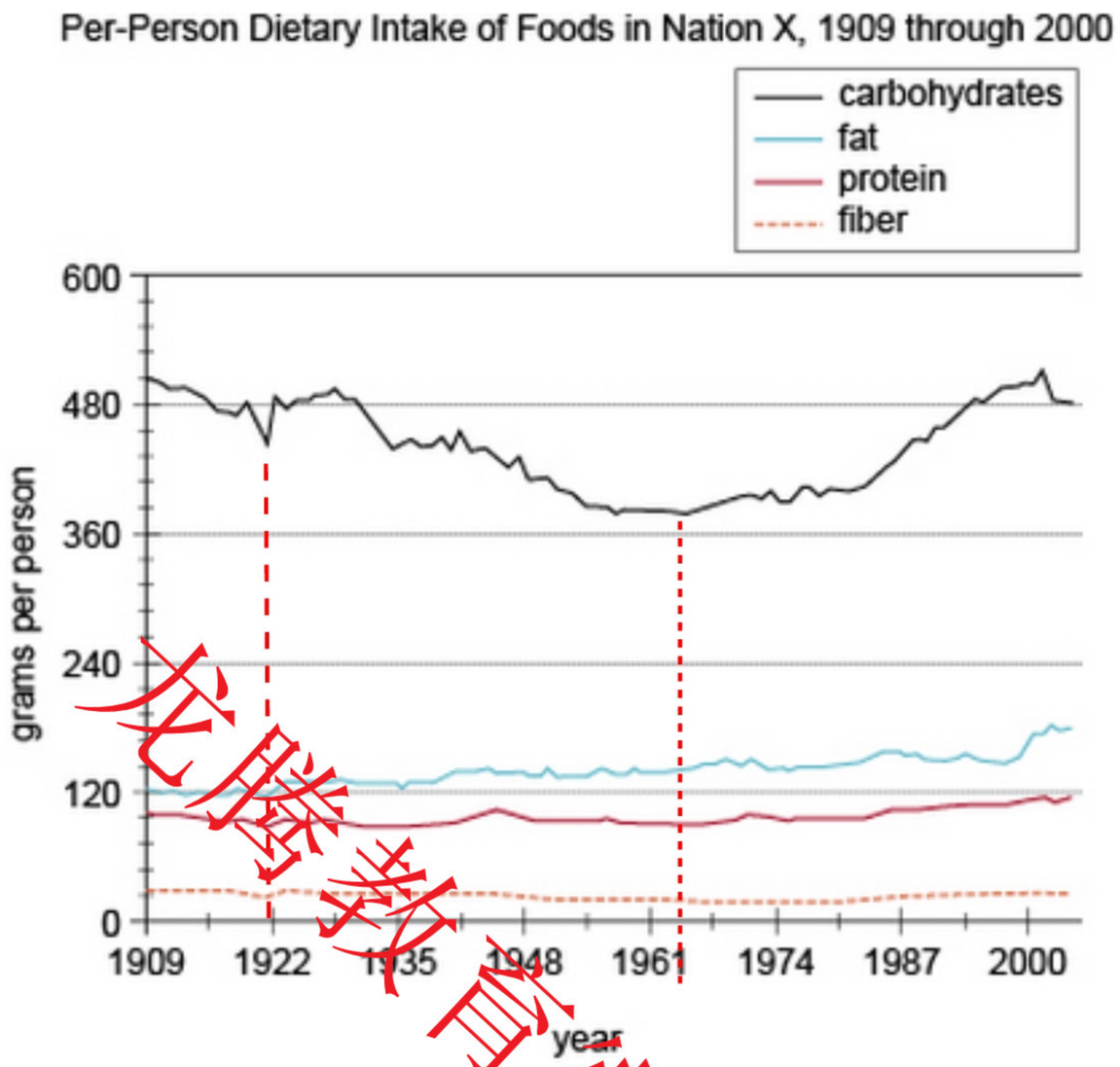
第三天return，那么就是找灰色的，也就是同时满足第一二天灰色条件，
25%*19%=4.75%
属于选项中，between1 and 10.

32B. Shoppers at Retailer R who purchased substitute items from other manufacturers on Day 1 paid a total amount that was approximately Select... % of the total all Day 1 shoppers would have paid had each of them been able to purchase Product X on Day 1.

- 60
- 78
- 100
- 130

lieu--替代的，划线红句子，说的是：在R中买替代产品X的产品（就是买了别的产品）需要多付平均30%的钱。---130%
没人买产品X，但是有60%的人来买替代产品
所以130%*60%=1.3*0.6=0.78=78%

Questions 33 is based on the following information



The graph depicts the per-person dietary intake of foods in 4 categories for the people of Nation X for the years 1909 through 2000. A decline in consumption in all 4 categories strongly suggests an overall food shortage rather than a simple change in dietary pattern.

From each drop-down menu, select the option that creates the most accurate statement about food consumption in Nation X based on the information provided.

Questions 33

33A. The graph suggests that Nation X most likely experienced a food shortage shortly before the year [Select...] .

- 1922
- 1961
- 2000

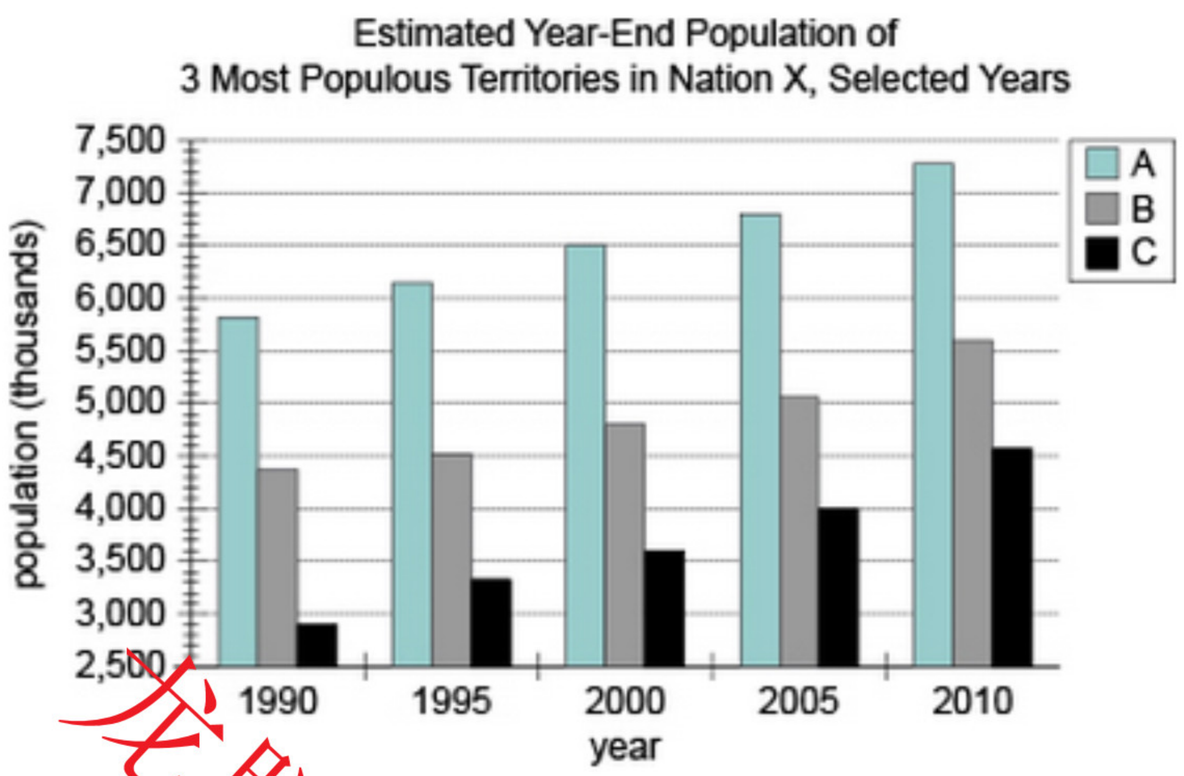
观察图中曲线走向，1922年前protein ,fat,carbohydrates,fiber都有下降
在1961年前，fat,protein,fiber基本保持不变，carbohydrates下降
2000年前，carbonhydrates有上升，其余也有轻微的上升，所以，food shortage
是指所有都下降的时候，只有1922年前满足

33B. For the year that the total dietary intake of carbohydrates was lowest, the per-person intake of carbohydrates was approximately [Select...] times the per-person intake of dietary fiber.

- 3
- 9
- 18
- 27

carbohydrates 最低的时候，大概370
这时候的，fiber大概20
370/20=18.5,即答案18

Questions 34 is based on the following information



注意文中给的条件的单位以及图中的单位，不一致的时候要转化为一致

The graph shows the estimated year-end population for the 3 most populous territories in Nation X in 5 selected years. The estimated year-end population of Nation X was 17,000,000 in 1990 and 22,500,000 in 2010.

From each drop-down menu, select the option that creates the most accurate statement based on the information provided.

Questions 34

34A. The increase in the estimated year-end population of Territory C from 1990 to 2010 accounts for approximately [Select...] % of the increase in the estimated year-end population of Nation X over the same period.

- 20
- 30
- 40
- 60

TC1990约为2900,2010约为4500，range1600
X1990=17000,2010=22500,range5500
1600/5500约等于0.29接近30%

34B. In 2010, the estimated total year-end population of the 3 territories was [Select...] of the estimated year-end population of Nation X.

- between 70% and 80%
- between 80% and 90%
- over 90%

2010.A约等于7250；B约等于5500；C约等于4500，ABC和为17,250
已知X=225，00
17250/22500约等于0.767
也就是70%到80%之间

Questions 35 is based on the following information

Rock varnish is typically rich in iron and manganese, with the presence of manganese due to bacteria on the surface of the rock. Because the bacteria would not survive on the surface of rocks in the colder, continuously frozen, reaches of Antarctica, scientists were not surprised to discover that rock varnish in the Thiel Mountains area of Antarctica consists only of limonite, a form of oxidized iron. This had penetrated from the surfaces of the rocks into the cracks. However, although moisture is essential to the movement of limonite, snow has not melted in the Thiel Mountains in recent times.

Indicate which statement in the table the given information most strongly suggests is *true*, and the statement that the given information most strongly suggests is *false*. Make only two selections, one in each column.

石头的青漆富有铁和锰，锰是有石头表面的细菌形成的。因为细菌不能生存在很冷接着结冰的石头表面。南极洲，科学家们，不惊讶的发现在南极洲的TM的石头青漆只包含limonite，一种氧化铁。Limonite穿透了石头的表面到裂缝里。但是，虽然湿度是L形成的基本要素，在最近时间里TM的雪并没有融化。

Questions 35

	35A. True	35B. False	
A	○	○	Moisture is required for the presence of significant amounts of manganese in the environment.
B	○	○	Moisture is not required for the presence of significant amounts of manganese in the environment.
C	○	●	When temperatures in a continuously frozen location increase to above freezing, cracks in rocks there begin to take in rock varnish containing significant amounts of manganese.
D	○	○	Rock varnish that is especially rich in iron is mostly found in extreme cold.
E	○	○	Manganese is unable to penetrate into cracks in significant amounts.
F	●	○	Temperatures on rocks in the Thiel Mountains were above freezing at some point in the past.

AB文中只是说，moisture is essential to the movement of limonite.没有说manganese(锰）所以无从得知正确与否，AB均不能选择。
C--就是原文红线句子改写。但是主语改变了。变成了manganese，所以是错误的。False
D-mostly原文没有说大多数，只是说especially rich in iron..不能得知
E---manganese没说能不能penetrate into cracks in significant amounts
F-因为limonite had penetrated form the surfaces of the rocks into the cracks，那么就说明不能冻成冰晶状。所以F是对的。

Questions 36 is based on the following information

A city is hosting a table tennis tournament for its residents. Each team has exactly two players, and each player is on exactly one team. In each round, each team plays exactly one other team and either wins or loses. The winning team advances to the next round and the losing team is eliminated. No team or player drops out except by losing a game. The tournament is in progress, and exactly 512 players participated in the first round.

From the available options, select a number of tournament rounds and a number of teams such that after the specified number of rounds there will be the specified number of teams remaining in the tournament. Make only two selections, one in each column.

Questions 36

	36A.	36B.	
	Rounds completed	Teams remaining	
A	○	○	2
B	●	○	4
C	○	○	8
D	○	●	16
E	○	○	32

512个人==256个组
没次刷掉一半
把256因式分解：

2	256	
2	128	1
2	64	2
2	32	3
2	16	4
2	8	5
2	4	6
2	2	7
2	1	8

Questions 37 is based on the following information

Naturalist: The decline of coral reefs has various causes. One contributing factor is predation on coral by organisms such as the crown-of-thorns sea star, whose preferred food source is coral polyps. Human fishing practices have decreased the sea star's predators, such as the harlequin shrimp. It is also possible that runoff containing nutrients for phytoplankton has resulted in larger phytoplankton blooms: the crown-of-thorns sea star gladly eats phytoplankton.

Indicate in the table which cause-and-effect sequence would most likely, according to the naturalist, result in coral reef decline. Make only two selections, one in each column.

Questions 37

	37A. Cause	37B. Effect	
A	○		An increase in phytoplankton
B			A decrease in phytoplankton
C		○	An increase in crown-of-thorns sea stars
D			A decrease in crown-of-thorns sea stars
E			An increase in harlequin shrimp

文中说的一条线：
coral reefs的减少有原因。其中一个就是因为它的
predator--crown-of-thorns sea star
的增多。而sea star喜欢浮游植物（pyhtoplankton)

Questions 38 is based on the following information

For each value of y greater than $2\sqrt{3}$, the function $f(x)$ is such that the equation $f(x) = y$ has the form $x = \frac{y^2+12}{y}$.

Select one value for a and one value for b such that the given information implies $f(a) = b$. Make only two selections, one in each column.

Questions 38

	38A.	38B.	
	a	b	
A	○	○	1
B	○	○	2
C	○	○	4
D	○	○	6
E	○	○	8

有题目得知
f(a)=b
a=(b^2+12)/b
其中b>2√3
所以b不能选1.2
一个个试
b=4时：
a=(16+12)/4=28/4=7无7选项，错
b=6时：
a=(36+12)/8=48/6=8正确。

Questions 39 is based on the following information

Archaeologist: There were several porcelain-production centers in 18th-century Britain, among them Bristol, Plymouth, and New Hall. Each center developed a unique recipe for its porcelain that might include flint glass, soapstone, bone ash, clay, quartz, and so on. We will therefore be able to determine, on the basis of compositional analysis, where the next cup we recover from this archaeological site was made.

Indicate two different statements as follows: one statement identifies an *assumption required* by the archaeologist's argument and the other identifies a *possible fact* that, if true, would, provide significant logical support for the required assumption.

Questions 39

	39A.	39B.	
	Assumption required	Possible fact	
A	○	●	Other cups have been recovered from the archaeological site, all of which were made of porcelain.
B	○	○	Some of the cups recovered from the archeological site were not made of porcelain.
C	●	○	The next cup to be recovered from the site will likely be made of porcelain.
D	○	○	Porcelain makers often traveled between centers, experimenting with one another's recipes.
E	○	○	There was considerable overlap of materials in the recipes used by the various centers.
F	○	○	Most porcelain in 18th-century Britain was made at one of the several centers.

文中说的都是porcelain瓷器，那么毫无疑问，下一个assumption猜想发掘的一定也是porcelain才符合原文。只有C满足。而直到assumption,满足这个猜想的事实，就是在所有的cup都是porcelain这样就能保证下一个cup是porcelain

Questions 40 is based on the following information

Adiliah, Bao, Davi, Laszlo, Saleema, and Yarah work in a firm's legal department. Adiliah supervises Bao and Davi, Davi supervises Laszlo, and Laszlo supervises Saleema and Yarah. These are the only supervisory relationships involving these 6 employees. Each document that the department processes must be initially reviewed by exactly 1 department member. Each document reviewed by a department member must then be reviewed by that person's supervisor. No other rules require anyone else to review any document. Anyone not required to review a given document will not review it.

Select *Laszlo among reviewers* for the maximum number of department members that could have reviewed a single document if Laszlo was among the reviewers. Select *Adiliah among reviewers* for the maximum number of department members that could have reviewed a single document if Adiliah was among the reviewers. Make only two selections, one in each column.

Questions 40

	40A.	40B.	
	Lazlo among reviewers	Adiliah among reviewers	
A	○	○	1
B	○	○	2
C	○	○	3
D	○	○	4
E	○	○	5
F	○	○	6

A>B.D>L>S.Y
如果L是第一个看文件的，那么只能B.D其中一个看，以及A看，3个人看了文件。
如果L不是第一个，是他的下属S或者Y，那么每一级都要看一遍，一共4个人看了。
这是最大的数

A>B.D>L>S.Y
如果A是第一个看的，他是最高级，没有他人可以看了，就一个，如果他不是第一个，S.Y是第一个，那么一级级来看，到他头上也就4个人看了。也是最大的量

Questions 41 is based on the following information

Archaeologist: Although thin-walled pottery is better able to resist the damaging effects of thermal stress resulting from being placed over a fire, such pottery is more prone to breaking during transport. We can therefore make predictions about pottery use by a group of people on the basis of a certain lifestyle characteristic of the group.

The archaeologist suggests that a certain type of *prediction* about a group can be made on the basis of the group having a certain type of *characteristic*. Indicate in the table the possible *characteristic* and *prediction* that most strongly conform to the archaeologist's suggestion. Make only two selections, one in each column.

Questions 41

	41A.	41B.	
	Characteristic	Prediction	
A	○	○	The group is sedentary rather than nomadic.
B	○	○	The group has not discovered pottery.
C	○	○	The group uses thin-walled pots.
D	○	○	The group uses fire for warmth and protection.
E	○	○	The group uses thick-walled pots.

察看5选项，讲特征的只有选项A毫无疑问，而根据红色划线句子，用的瓷器的与当地居民的生活方式（lifestyle)相关，sedentary不爱活动的，即是定居在一个地方的生活方式（与游牧相反）。上文中说因为thin-walled pottery不能transport即是说游牧这种经常跑来跑去的生活方式不能用，那么反过来说，停留一地的sedentary就用这种pottery

Questions 42 is based on the following information

Consider a right circular cylinder for which the following quantities are all numerically equal: the height, in meters; one-fourth of the volume, in cubic meters; the area of the circular base, in square meters.

In the table, select a value for the diameter of the circular base and a value for the height, where both are measured in meters, so that the two values are jointly consistent with the information provided. Make only two selections, one in each column.

Questions 42

	42A.	42B.	
	Diameter	Height	
A	○	○	$\frac{2}{\sqrt{\pi}}$
B	●	○	$\frac{4}{\sqrt{\pi}}$
C	○	●	4
D	○	○	$\frac{16}{\pi}$
E	○	○	4π
F	○	○	16

由题意可以知道：
h=(1/4)V=πr^2
整数比较好看。先看它
假设H=4
4=πr^2
===>r=2/(√π)
d=4/(√π)
正好有对应答案。

Questions 43 is based on the following information

Professor A: The aid industry should begin to limit its efforts to spending on primary schools in the poorest areas, providing medicines and other basic supplies for health care such as mosquito nets, and to a few key agricultural initiatives.

Professor B: Much education work has been ineffective. A village or town with poor schooling may be better off getting a road than a teacher. Once local farmers can transport produce to market they will be willing to pay for schools—and to make sure the schools succeed.

Suppose that the professors' statements express their genuine opinions. Select statements (1) and (2) as follows: Professor A would likely disagree with (1) and Professor B would take (2) to present logical support for (1). Select only two statements, one per column.

Questions 43

	43A	43B	
	(1)	(2)	
A	○	○	The aid industry should focus less on the areas of health and agriculture than it now does.
B	○	○	The aid industry should focus more on primary education than it now does.
C	●	○	The aid industry should focus its spending less on primary education than it now does.
D	○	○	Projects in health and agriculture are more likely to be successful if they are not paid for by the aid industry.
E	○	○	Projects in education are more likely to be successful if they are paid for by the aid industry.
F	○	●	Projects in education are more likely to be successful if they are paid for by local people.

题目：（1）是professor不同意的，即取A观点的反面
来自professorB的观点（2）是support（1）观点的
professorA说limit the effort to spending on primary schools in the poorest areas.那，取反面（取非）就是大力宣扬spending on primary schools in the poorest areas,提供那么药物，健康方面，以及农业方面

professorB说，一旦当地的农民可以运输方便了，他们就能赚取金钱就会乐意支付给学校，以及确保学校成功。（这观点的重点前一句"a village or town with poor schooling may be better off getting a road than a teacher."也说明了，后面这句只是解释说明）。F说的就是最后一句的意思。

Questions 44 is based on the following information

A car is traveling on a straight stretch of roadway, and the speed of the car is increasing at a constant rate. At time 0 seconds, the speed of the car is v_0 meters per second; 10 seconds later, the front bumper of the car has traveled 125 meters and the speed of the car is v_{10} meters per second.

In the table, select values of v_0 and v_{10} that are together consistent with the information provided. Make only two selections, one in each column.

Questions 44

	44A.	44B.	
	v_0	v_{10}	
A	○	○	5
B	○	○	18
C	○	○	20
D	○	○	36
E	○	○	72

0s-----V0
10s-----V10
125
10s平均速度
V均=(V0+V10)/2
V均*时间=路程
[（V0+V10)/2]*10=125
(V0+V10)*5=125
(V0+V10)=25
因为速度不能为负数,
而表中只能是5.20两数
字能合成25
前面速度一定比后面小
（the speed of the car is increasing at a constant rate)
V0=5
V10=20

Questions 45 is based on the following information

Journalist: The end of the Triassic, the geologic period that extended from about 250 to 200 million years ago, has traditionally been blamed on volcanic eruptions that went on for 600,000 years. However, a researcher has recently suggested that these eruptions were only an indirect cause. By analyzing the isotopic composition of hydrocarbon molecules from plant waxes from the period, he discovered what looks like a spike in the amount of nonbiological carbon in the atmosphere, lasting between 10,000 and 20,000 years. The researcher believes that the release of methane—a carbon-containing greenhouse gas much stronger than carbon dioxide—stored at the bottom of the ocean was the direct cause of the end of the Triassic.

The journalist suggests that a certain causal sequence may have brought about the end of the Triassic period. Identify in the table the sequence of *cause* and *effect* most strongly suggested by the journalist to have resulted in the end of the Triassic. Make only two selections, one per column.

Questions 45

	45A.	45B.	
	Cause	Effect	
A	○	○	The emissions of volcanoes into the atmosphere
B	○	○	The extinction of many oceanic biological species
C	○	○	The eruption of volcanoes
D	○	○	The release of carbon dioxide into the atmosphere
E	○	○	The release of methane from the bottom of the ocean

the eruption of volcanoes--(indirect cause of the end of the Triassic)---result in a release of methane from the bottom of the ocean--which in return resulted in the end of Triassic.
cause--indirect cause
effect--diriect cause
综合出现的这种cause-- effect题型，effect的东西才是最终影响文中主要讨论的事物。

Questions 46 is based on the following information

For each positive integer n, the quantity s_n is defined such that $s_{n+2} = (s_n)^2 - s_{n+1}$. In addition, $s_2 = 1$.

In the table, select values for s_1 and s_4 that are jointly compatible with these conditions. Select only two values, one in each column.

Questions 46

	46A.	46B.	
	s_1	s_4	
A	○	○	−12
B	○	○	−7
C	○	○	−3
D	○	○	−1
E	○	○	0

S3=S1+2=S1^2-S2=S1^2-1
S4=S2+2=S2^2-S3=1-（S1^2-1)
=2-S1^2
假设S1=-12,S4=2-12^2=-142错
假设
S1=-7，S4=2-7^2=-47错误
假设
S1=-3，S4=2-9=-7有正确

Questions 47 is based on the following information

In an experiment, researchers posed simple questions in geometry to children from varied backgrounds. One group consisted of 7-to-13-year-old children of the Mundurucú, an isolated indigenous group in the Amazon basin. The Mundurucú children, who had no formal training in geometry, answered the questions just as quickly and accurately as did French children of the same ages who did have formal training in geometry. In contrast, 5-year-old North American children had much more trouble answering the questions. The researchers concluded that some basic geometric knowledge is innate, but this innate knowledge typically develops only after age 5.

In the table, select the statement that would, if true, most strengthen the researchers' conclusion and most weaken it, respectively. Make only two selections, one in each column.

Questions 47

	47A.	47B.	
	Most strengthen	Most weaken	
A		●	North American children 7 to 13 years old had much more trouble answering the questions than did the Mundurucú of the same ages.
B			None of the 5-year-old North American children had ever studied any geometry.
C	●		Mundurucú children who were 5 years old had just as much trouble answering the questions as did the 5-year-old North American children.
D			The researchers posed the same questions to 5-year-old French and Mundurucú children as they posed to the 7-to-13-year-old children.
E			Most of the children studied answered one or more of the questions incorrectly.

这是一题简单逻辑问题，比verbal的更简单，清晰
文中结论是最 后一句：some basic geometric knowledge is innate, but this innate knowledge typically develops only after age 5.
support--只要找出，几何数学能力都是天生的，且5岁后才发展形成，文中提到的例子说的是南美5岁的小孩做题目有问题。其他例子，其他地方也一样即support.
weaken---5岁后也有问题,根据文中之前例子说7-13岁做题没问题，那么只要否决这个，说南美的7-13岁小孩做题有问题，既是weaken

Questions 48 is based on the following information

At XYZ Inc., an employee receives a verbal warning upon accumulating at least 3 unexcused absences within any 365-day period and a written reprimand upon accumulating at least 4 such absences. For any single 8-hour workday, missing between 10 minutes and 2 hours of work counts as one-third of an absence, missing between 2 hours and 4 hours of work counts as half an absence, and missing more than 4 hours counts as a full absence. However, an employee may stay late to make up for up to 1 hour of an unexcused absence on the same day.

The table contains descriptions of the unexcused absences of 5 employees of XYZ Inc. Assume that in each case the employee had no other unexcused absences and made up no other time. In the table, select a description of an employee who qualified for a verbal warning but not a written reprimand, and select a description of an employee who qualified for a written reprimand. Make only two selections, one in each column.

at least 3 unexcused absences within any 365day---verbal warning
at least 4 unexcused absences within any 365day-written reprimand

Questions 48

	48A. Verbal warning	48B. Written reprimand	
A	○	○	Absent all day on 5 April 2010, 8 June 2010, 17 April 2011, and 14 June 2011
B	○	○	Absent 4.5 hours but stayed 1 hour late on 13 May 2010; absent all day on 2 June 2010, 1 May 2011, and 21 July 2011
C	●	○	Absent 4.5 hours on 19 March 2010; stayed 1 hour late on 20 March 2010; absent all day on 8 February 2011 and 9 February 2011; arrived 40 minutes late on 17 April 2011
D	○	○	Absent 3.5 hours on 13 September 2010; absent 1 hour on 15 September 2010; absent 6 hours on 16 September 2010; absent 2.5 hours on 18 September 2010; absent 1 hour on 19 September 2010
E	○	●	Absent 3 hours on 7 July 2010; absent 2.5 hours on 13 September 2010; absent all day on 31 January 2011 and 4 July 2011; absent 5 hours on 12 March 2011

A-两个年份， 5April ,2010到17April2011超过365天,所以不够3次， 没有warning
B--两个年份， 砍掉第一二个或者最后一个 1）砍掉最后一个july， 1/2+2<3不够， 没有warning 2）砍掉第一二个， 2， 没有warning
C-两个年份， 砍掉第一个或者最后一个， 1）砍掉第一个， 2+1/3； 2）砍掉最后一个， 1+2=3 verbal warning
D-两个年份， 砍掉第一.二个或者最后一个， 1）砍掉第一。二个， 1+1/2<3,没有warning 2)砍掉最后一个， 1/2+1/3+1+1/2=2+1/3,没有warning
E-虽然是两月份， 都在365天中， 1/2+1/2+2+1=4， written reprimand.

Questions 49 is based on the following information

Metro Ballet Company presents high-quality productions of traditional, classical ballet. For the past several years, however, the company's overall profits have been declining, and ticket sales have been flat. Annual audience surveys indicate that a majority of those who attend Metro Ballet productions consistently enjoy the performances and prefer classical ballet to other forms of dance; almost all of them have been attending Metro Ballet for several years. General surveys of area residents indicate, however, that very few are aware of Metro Ballet productions, and most imagine that the performances are boring and the tickets too expensive. In an effort to appeal to a wider audience, over the past decade the company has spent increasing amounts of money on spectacular stage productions, while lowering ticket prices.

In the first column of the table, select the strategy that, in the absence of the other alternatives listed, would lead most directly to decreasing Metro Ballet's expenses for its classical ballet productions. In the second column, select the strategy that, in the absence of the other alternatives listed, would constitute the most direct approach to solving the problem of increasing audience size for Metro Ballet's classical ballet productions. Make only two selections, one in each column.

Questions 49

	49A.	49B.	
	Decrease expenses	Increase audience size	
A	○	○	Obtain public funding to double the spending on stage productions without increasing ticket prices
B	●	○	Return spending on productions to levels of several years ago
C	○	○	Expand productions to include modern, folk, and tap dance traditions
D	○	○	Offer special discounts to reward people who have attended the greatest number of performances
E	○	○	Mount a local advertising campaign emphasizing the affordability and excitement of Metro Ballet's spectacular stage productions

要减少花费:只有B满足
A-double the spending on stage productions (这是花费，尽管有public funding)
C-expand productions--需要花钱才能够做到
D-提供特殊的折扣，这跟花钱与否无关
E-AD 需要花钱

增加观众数量
A-无法得知double the spending on stage production能吸引人
B-人们都已经习惯了现在的比较丰富多彩的产品，如果用过去的的产品会起反效果-减少观众数
C-增加新的产品，那么观众受新产品的吸引就只会注意到新的产品，而不会转移到Metro Ballet
D-提供折扣给那些经常来的人，那只会是他们来的更加勤，而不喜欢不来的还是会不来，size没变
E-当地的广告会介绍吸引新的人群。--increase(正确)

Questions 50 is based on the following information

A mattress company has two stores, one in City X and the other in City Z. The company has advertised equally in newspapers in both cities, but has advertised twice as much on the radio in City Z as in City X. The two cities have similar populations and economies and the sales at each store have been roughly equal. A consultant claims this shows that the radio advertising has not improved mattress sales.

In the table, select changes that the company could make in City X and City Z, respectively, that together would probably be most helpful in testing the consultant's claim. Make only two selections, one in each column.

Questions 50

	50A.	50B.	
	City X	City Z	
A			Double newspaper advertising
B			Eliminate newspaper advertising
C	○	○	Eliminate radio advertising
D			Change the content of radio advertising
E			Add television advertising

文中consultant 说的是radio ad和火柴的销售没关系，问题问，怎么样来帮助test claim,只要把两个地区的radio ad都去除掉，如果销量没变化，那么证明correct,只要有一点变化，就说明有影响