第四章
几何

本节课授课要点

4.1
几何核心知识点及重点题目

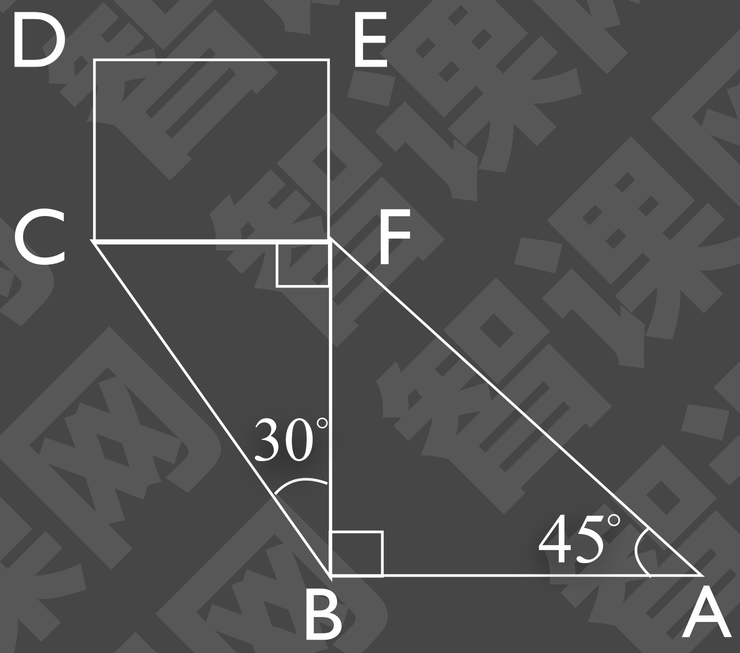
4.1 几何核心知识及重点题目

- 平面几何
- 立体几何
- 解析几何

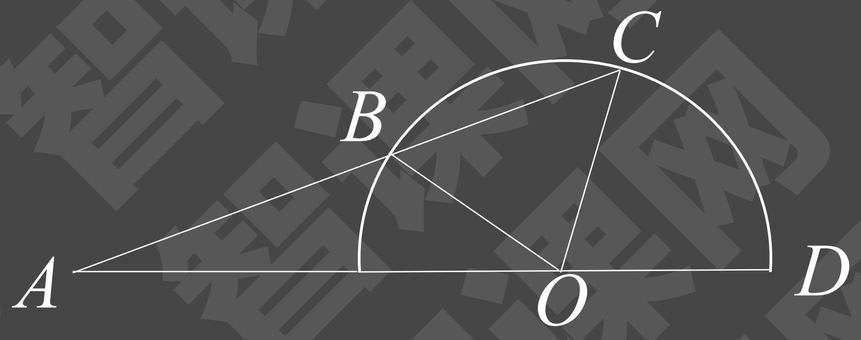
4.1 几何核心知识及重点题目

In the figure above ,square CDEF has area 4.
What is the area of △ABF ?

A. $2\sqrt{2}$
B. $2\sqrt{3}$
C. 4
D. $3\sqrt{3}$
E. 6



4.1 几何核心知识及重点题目



In the figure shown ,point O is the center of the semicircle and points B,C and D lie on the semicircle .If the length of line segment AB is equal to the length of line segment OC ,what is the degree measure of angle BAO ?

(1) The degree measure of angle COD is 60°.

(2) The degree measure of angle BCO is 40° .

4.1 几何核心知识及重点题目

Is the measure of one of the interior angle of quadrilateral ABCD equal to 60 degree ?

(1) Two of the interior angle of ABCD are right angles.

(2) The degree measure of angle ABC is twice the degree measure of angle BCD.

4.1 几何核心知识及重点题目

立体几何

Solid	Volume	Surface Area
Prism	$V = Bh$	$SA = Ph + 2B$
Rectangular solid	$V = lwh$	$SA = 2lw + 2lh + 2wh$
Cube	$V = s^3$	$SA = 6s^2$
Pyramid	$V = \frac{1}{3}Bh$	$SA = \frac{1}{2}PL + B$
Cylinder	$V = \pi r^2 h$	$SA = 2\pi rh + 2\pi r^2$
Cone	$V = \frac{1}{3}\pi r^2 h$	$SA = \pi rL + \pi r^2$
Sphere	$V = \frac{4}{3}\pi r^3$	$SA = 4\pi r^2$

The variable in these formulas are defined as follows:

V=volume

SA=surface area

B=base area

P=base perimeter

L=slant height

h=altitude

l=length

w=width

r=radius

s=side length

4.1 几何核心知识及重点题目

A rectangular box is 10 inches wide, 10 inches long,and 5 inches high. What is the greatest possible(straight-line) distance, in inches, between any two points on the box?

(A) 15

(B) 20

(0 25

(D) $10\sqrt{2}$

(E) 10 $\sqrt{3}$

4.1 几何核心知识及重点题目

A grocer is storing small cereal boxes in large cartons that measure 25 inches by 42 inches by60 inches. If the measurement of each small cereal box is 7 inches by 6 inches by 5 inches, then what is the maximum number of small cereal boxes that can be placed in each large carton?

(A) 25 (B) 210 (C) 252 (D) 300 (E)420

4.1 几何核心知识及重点题目

解析几何

平面直角坐标上两点间距离为：$\sqrt{(x_1-x_2)^2+(y_1-y_2)^2}$

斜截式：$y=kx+b$,其中，k为斜率(Slope),b为y轴截距(Intercept)

$$k=\frac{y_2-y_1}{x_2-x_1}$$

若两直线垂直，其斜率乘积为−1

4.1 几何核心知识及重点题目

In the xy-plane,what is the y-intercept of the line *l* ?

(1)The slope of line *l* is 3 times its y-intercept.

(2) The x-intercept of line *l* is -1/3.

4.1 几何核心知识及重点题目

（a，b）点的对称

关于x轴　（a，-b）

关于y轴　（-a，b）

关与y=x对称　（b , a)

关于y=-x对称（-b，-a）

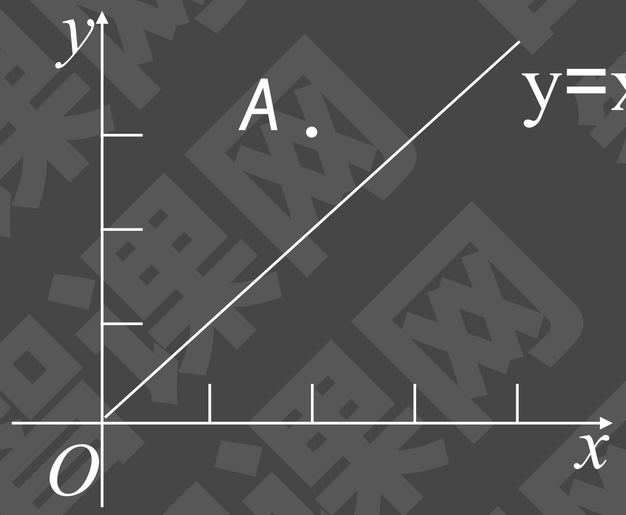
关于原点对称（-a，-b）

旋转90°　横纵坐标绝对值对换，符号看象限

4.1 几何核心知识及重点题目

In the rectangular coordinate system above ,the line $y=x$ is the perpendicular bisector of segment AB(not shown), and the x-axis is the perpendicular bisector of segment BC (not shown),If the coordinates of point A are (2,3), what are the coordinates of point C?

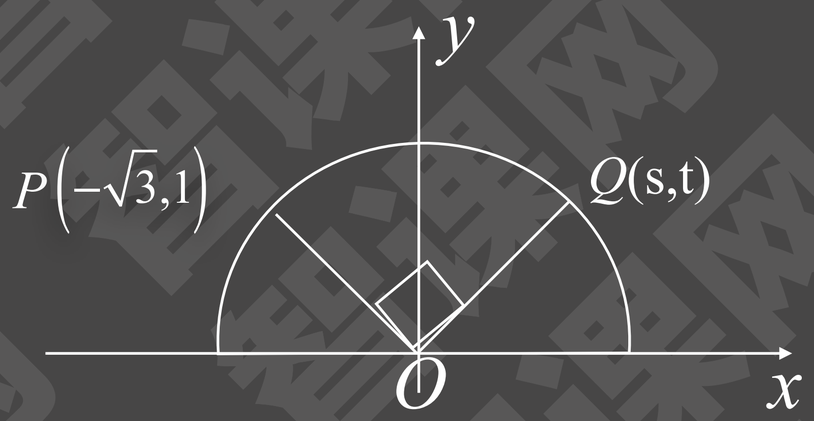
A. (−3,−2)　　B. (−3,2)　　C. (2,−3)　　D. (3,−2)　　E. (2,3)



4.1 几何核心知识及重点题目

In the figure above ,points *P* and *Q* lie on the circle with center *O*,What is the value of s ?

A. $\frac{1}{2}$　　B. 1　　C. $\sqrt{2}$　　D. $\sqrt{3}$　　E. $\frac{\sqrt{2}}{2}$



回顾本节课授课要点

4.1
几何核心知识及重点题目

预告下节课授课要点

5.1
常见数列及特殊情况处理

THANK YOU