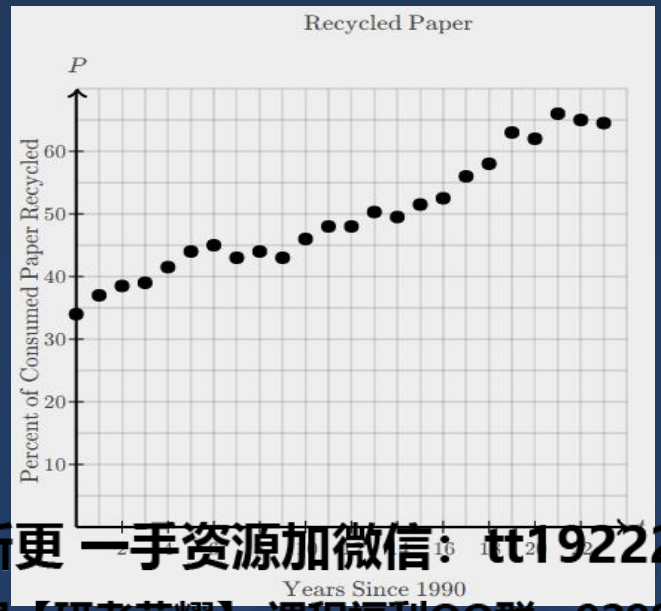
koolearn
新东方在线

Scatter plot

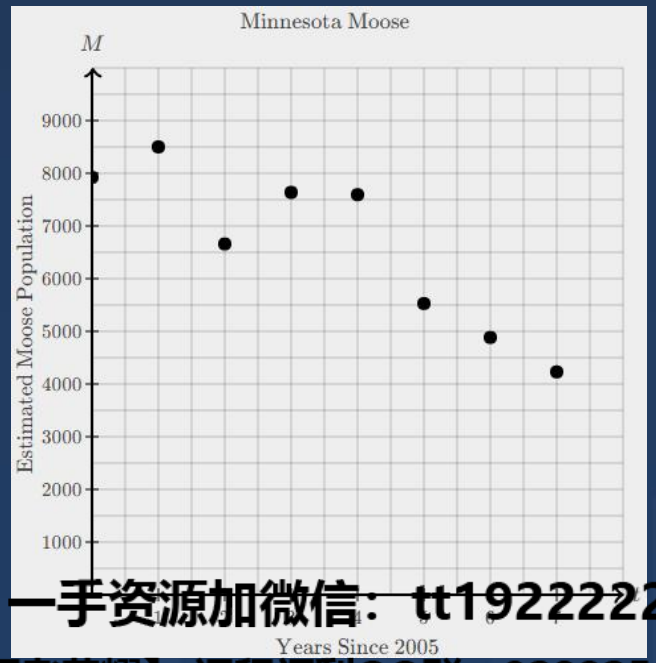
1.The scatterplot to the left displays the percentage, *P*, of paper consumed in the United States (US) that has been recycled from 1990 to 2012, where *t* represents years since 1990. Which of the following equations best models the relationship between years since 1990 and the percent of consumed paper that has been recycled?

A. $P=0.8t+35$
B. $P=1.3t+35$
C. $P=1.7t+35$
D. $P=3t+35$



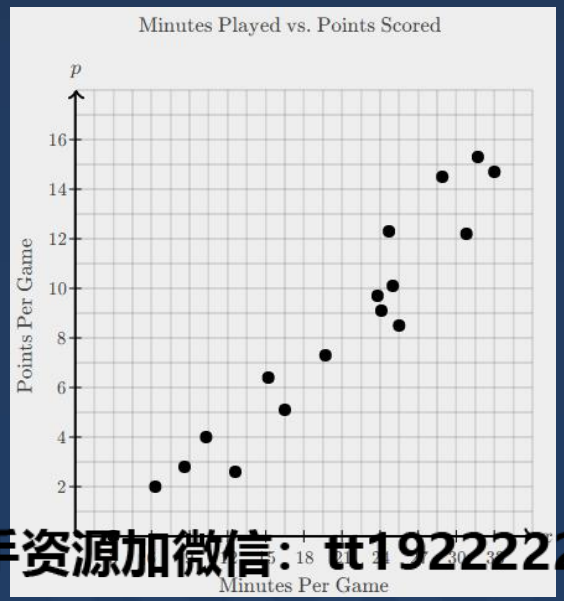
2.The scatterplot to the left shows the number of moose M, estimated to be living in Minnesota from 2005 to 2012. Which of the following equations best models the population of moose in Minnesota during this time period, where t represents the years since 2005?

A. M=8,593−563t
B. M=10,343−1,842t
C. M=7,923+578t
D. M=5,725+467t



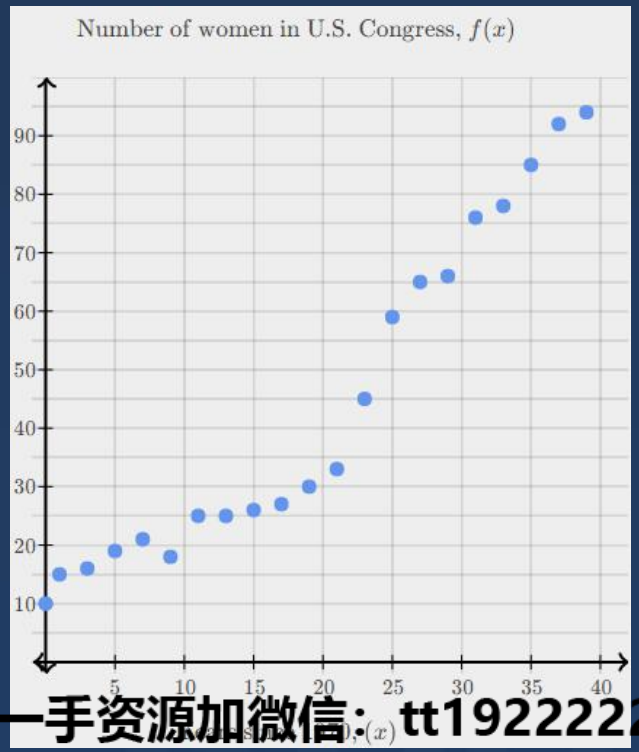
3.During the 2014-2015 season, a statistician collected data on a professional sports team. The scatterplot to the left shows his findings for the average minutes played per game and the average points scored per game for each player on the team. Which of the following equations best relates minutes played per game, x, and points scored per game, p, for players on this team?

A. $p=2x-2$
B. $p=2x+3$
C. $p=0.5x-2$
D. $p=0.5x+3$



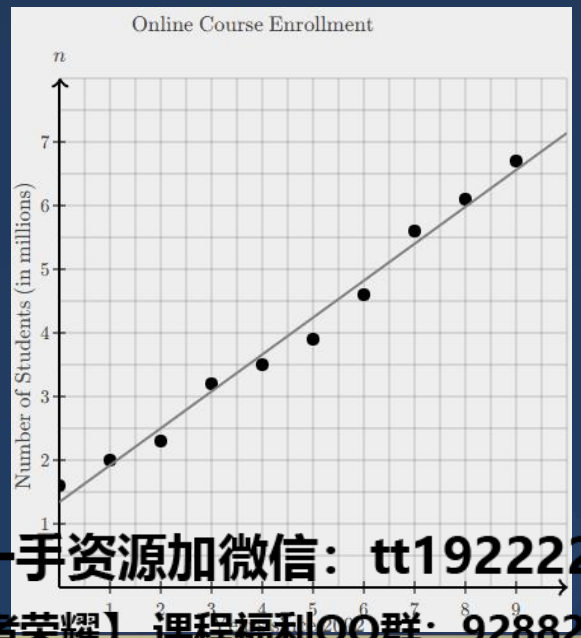
4.The scatter plot drawn at left depicts the change in the number of women in the United States Congress from 1970 to 2009. Which of the following is the best exponential model for this data?

A. $f(x)=1.056(12.590)^x$
B. $f(x)=12.590\ (0.106)^x$
C. $f(x)=12.590(1.056)^x$
D. $f(x)=125.90(1.056)^x$

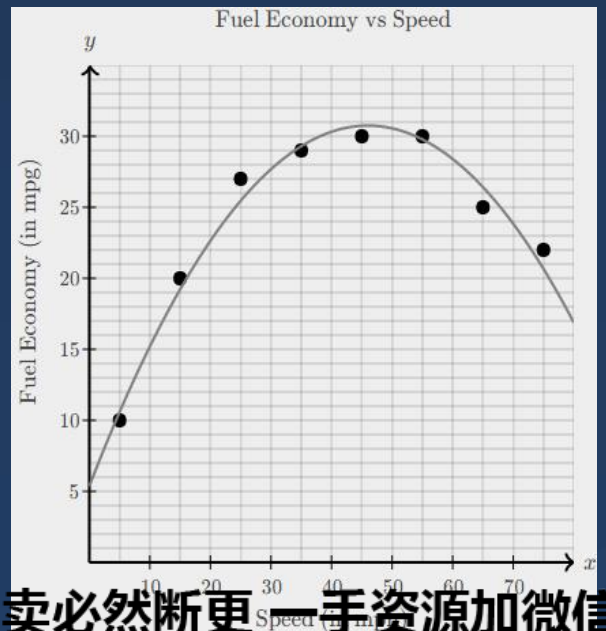


5.The scatterplot to the left shows the number of college students, n, in millions, who enrolled in at least one online-course from 2002 to 2011, where t represents years since 2002. A best fit line that approximates the data is also shown on the scatterplot. Which of the following is closest to the yearly increase in online college student enrollment from 2002 to 2011?

A. 130,000
B. 580,000
C. 1,725,000
D. 58,000,000



Mateus calculated his car's average fuel economy, y, in miles per gallon (mpg), for various speeds, x, in miles per hour (mph), and recorded his data, along with a best fit curve, on the scatter plot below.

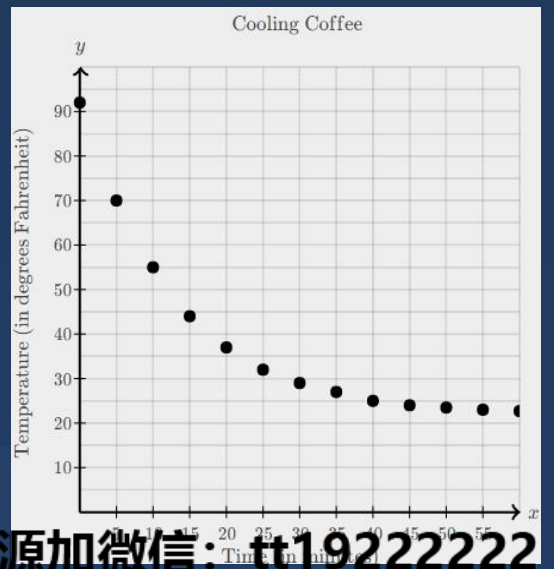


6.Based on the model, which of the following is a true statement?

A. Mateus' car gets a maximum fuel economy of approximately 46 mpg.
B. Mateus' car obtains its maximum fuel economy when traveling approximately 46 mph.
C. The car's fuel economy increases by approximately 46 mpg as it accelerates from 0 mph to 70 mph.
D. Mateus' car has a fuel economy of approximately 46 mpg regardless of the speed.

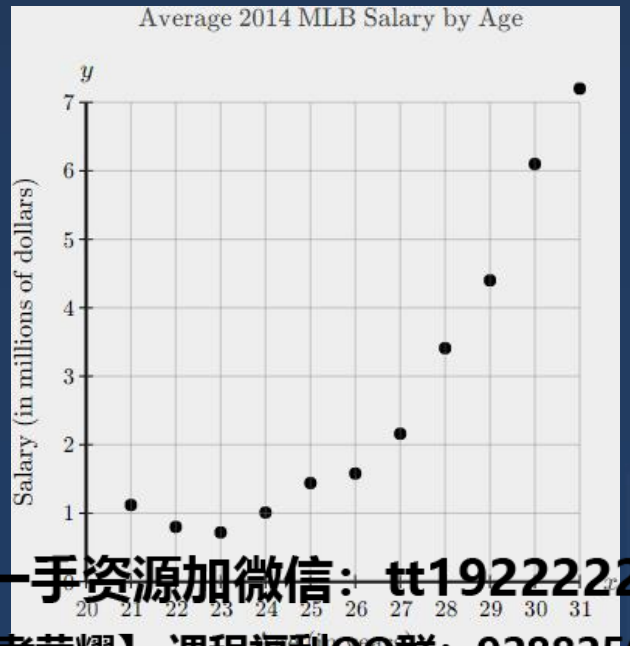
7.The scatterplot to the left shows the temperatures, y, in degrees Celcius (℃), of a cup of coffee cooling in a 22℃ room at 5 minute intervals. If x represents the time, in minutes, since the coffee had a temperature of 92℃, which of the following could be used to predict the temperature of the coffee for $0 \le x \le 60$?

A. $y=92-9.25x$
B. $y=92-22x$
C. $y=92(0.925)^x$
D. $y=70(0.925)^x x+22$



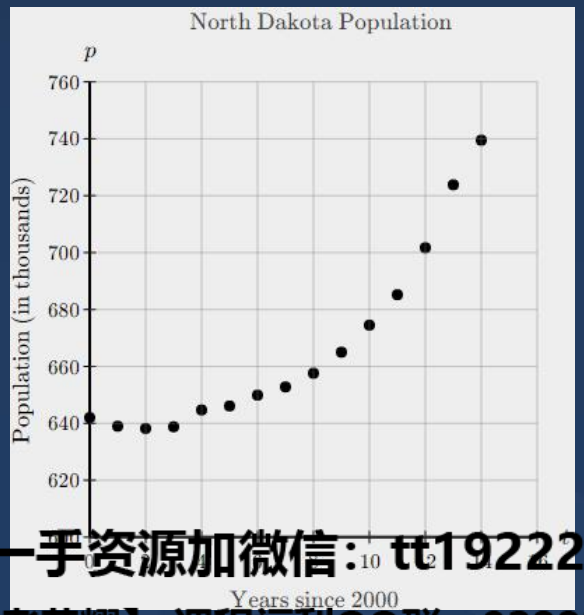
8.The scatterplot to the left shows average 2014 Major League Baseball (MLB) salaries, y, in millions of dollars, for players x years of age. Which of the following quadratic equations best models the relationship between a MLB player's age and his salary?

A. $y=0.1(x-23.1)^2+0.78$
B. $y=0.1(x+23.1)^2+0.78$
C. $y=2(x-23.1)^2+0.78$
D. $y=2(x+23.1)^2+0.78$



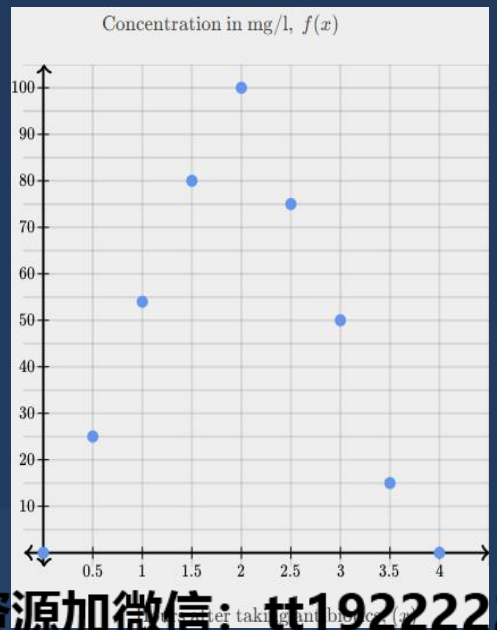
9.The scatterplot to the left shows the population of North Dakota, p, in thousands, from 2000 to 2014. Which of the following is the best quadratic model for the North Dakota population, where t is the number of years since 2000?

A. $p=0.78(t-2.8)^2+638.4$
B. $p=0.78(t+2.8)^2+638.4$
C. $p=0.78(t-638.4)^2+2.8$
D. $p=0.78(t+638.4)^2+2.8$

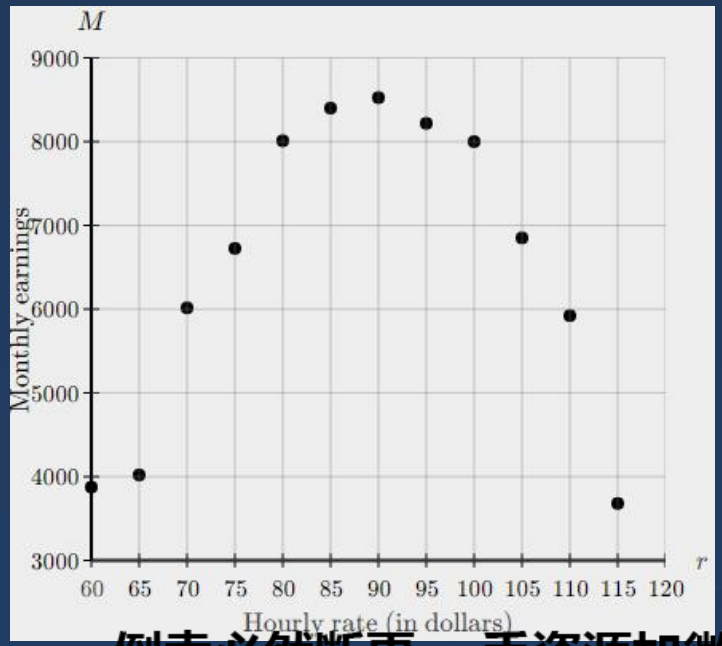


10.The scatter plot drawn at left depicts the concentration of antibiotics in a patient's blood over time. Which of the following functions best describes the relationship shown?

f(x)=22.45x^2+92.38x+1.86
f(x)=-22.45x^2+92.38x+1.86
f(x)=1.86$(22.45)^x$
f(x)=22.45$(1.86)^x$



11.A digital photographer experimented with her hourly pricing for a year. She changed her hourly rate each month and recorded her corresponding monthly earnings. The scatterplot below shows the monthly earnings, M, in dollars, for one year.

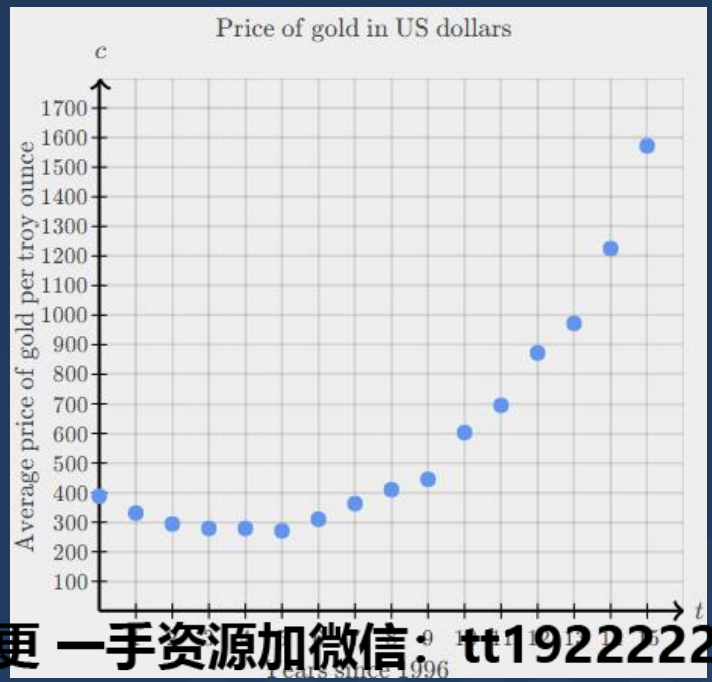


Which of the following equations best models the relationship between the photographer's hourly rate, r, and her monthly earnings?

A. $M=-6.36(r-89)^2+8400$
B. $M=-6.36(r+89)^2+8400$
C. $M=6.36(r-89)^2+8400$
D. $M=6.36(r+89)^2+8400$

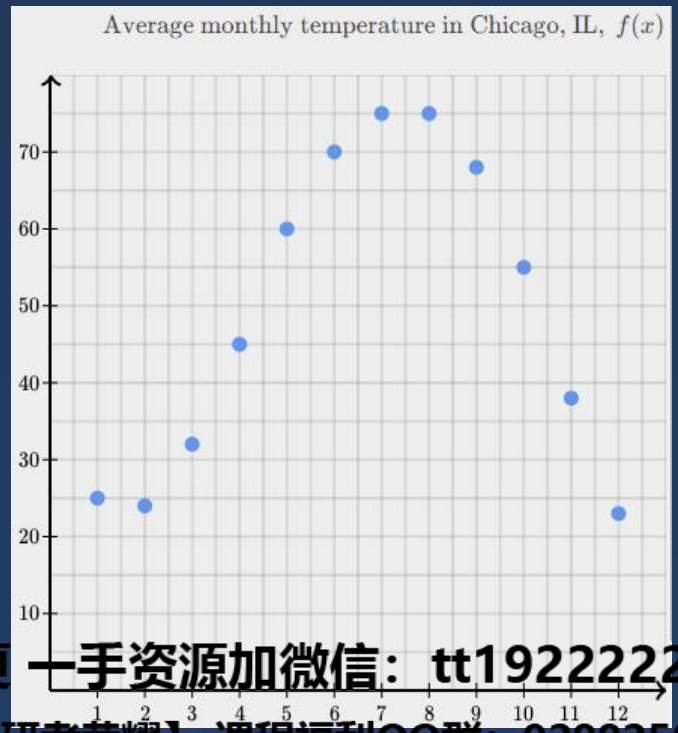
12.The scatterplot to the left shows the price, c, per troy ounce of gold in United State's (US) dollars from 1996 to 2011, where t represents years since 1996. Which of the following equations best models the data?

A. $c=50(1.25)^t$
B. $c=400(0.85)^t$
C. $c=10.34(t-4.14)^t+245$
D. $c=10.34(t-245)^t+4.14$



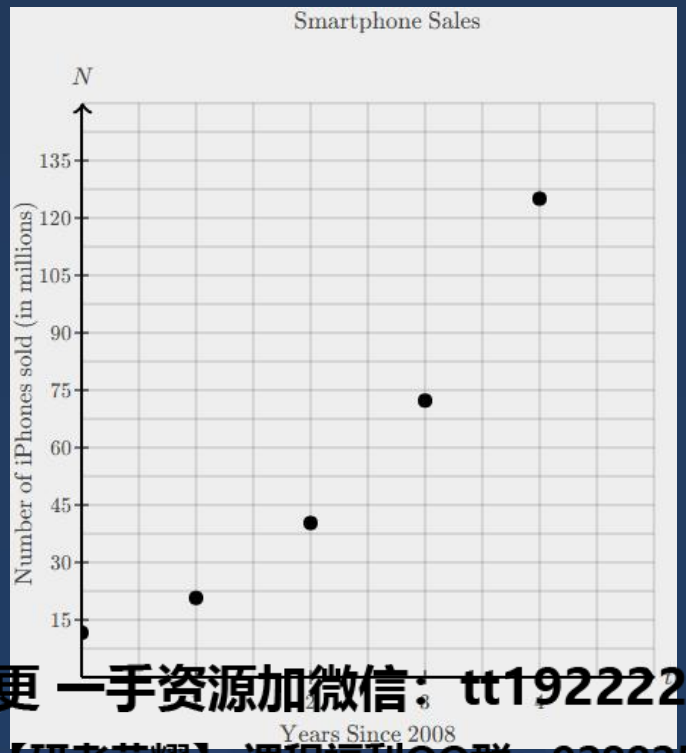
13.The scatter plot drawn at left depicts the average monthly temperatures in degrees Fahrenheit in Chicago, Illinois during the year 2013. Which of the following functions best describes the relationship shown?

A. $f(x)=1.67x^2-23.04x-2.86$
B. $f(x)=-1.67x^2+23.04x-2.86$
C. $f(x)=25.91(1.03^x)$
D. $f(x)=15.91(0.97^x)$



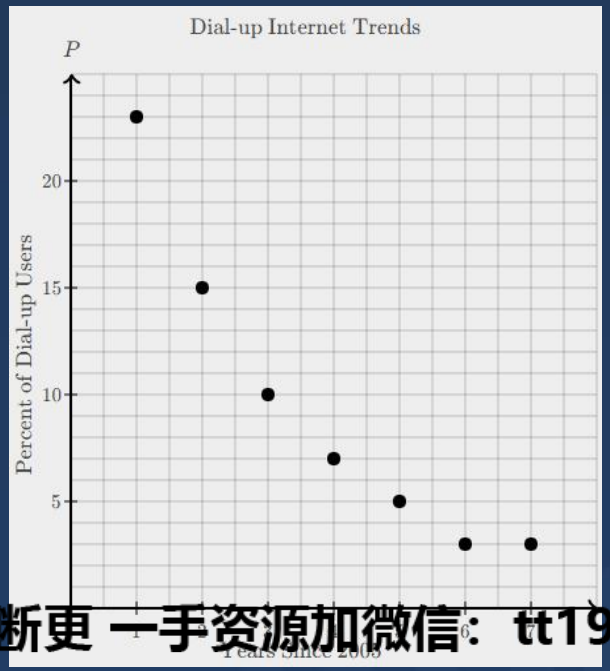
14.The scatterplot to the left shows the number of smartphone solds, N, in millions, at a certain company from 2008 to 2012, where t represents years since 2008. Which of the following best models the relationship between N and t?

A. $N=15(0.56)^t$
B. $N=15(2.25)^t$
C. $N=11.68(1.82)^t$
D. $N=11.68(9.1)^t$



15.The scatterplot to the left shows the percent, P, of Americans that reported accessing the Internet at home via dial-up Internet service. If t represents the years since 2005, which of the following exponential equations best models the trend in the percent of dial-up users from2005 to 2012?

A. $P=30(0.7)^t$
B. $P=30t(1.5)^t$
C. $P=-30(0.7)^t$
D. $P=-30(1.5)^t$



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Thanks

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