



SAT Test June 2016 USA

IMPORTANT REMINDERS

1

A No. 2 pencil is required for the test.
Do not use a mechanical pencil or pen.

2

Sharing any questions with anyone
is a violation of Test Security
and Fairness policies and may result
in your scores being canceled.

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June 16

Math Test – No Calculator

25 MINUTES, 20 QUESTIONS

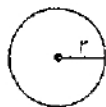
Turn to Section 3 of your answer sheet to answer the questions in this section.

DIRECTIONS

For questions 1-15, solve each problem, choose the best answer from the choices provided, and fill in the corresponding circle on your answer sheet. For questions 16-20, solve the problem and enter your answer in the grid on the answer sheet. Please refer to the directions before question 16 on how to enter your answers in the grid. You may use any available space in your test booklet for scratch work.

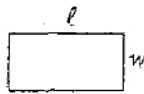
NOTES

1. The use of a calculator is **not permitted**.
2. All variables and expressions used represent real numbers unless otherwise indicated.
3. Figures provided in this test are drawn to scale unless otherwise indicated.
4. All figures lie in a plane unless otherwise indicated.
5. Unless otherwise indicated, the domain of a given function f is the set of all real numbers x for which $f(x)$ is a real number.

REFERENCE

$$A = \pi r^2$$

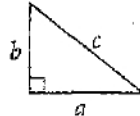
$$C = 2\pi r$$



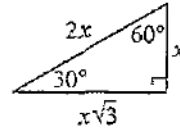
$$A = \ell w$$



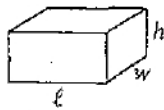
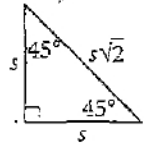
$$A = \frac{1}{2}bh$$



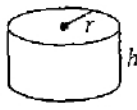
$$c^2 = a^2 + b^2$$



Special Right Triangles



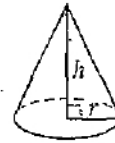
$$V = \ell wh$$



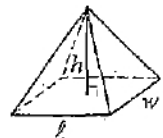
$$V = \pi r^2 h$$



$$V = \frac{4}{3}\pi r^3$$



$$V = \frac{1}{3}\pi r^2 h$$



$$V = \frac{1}{3}\ell wh$$

The number of degrees of arc in a circle is 360.

The number of radians of arc in a circle is 2π .

The sum of the measures in degrees of the angles of a triangle is 180.



1.

Jobs Completed in a Week

Worker	Lawns cut	Cars washed	Newspapers delivered
Will	4	x	20
Demarius	3	8	35

The chart above shows the number of times that Will and Demarius completed each of three jobs in a week. Each worker was paid \$20 for each lawn he cut, \$5 for each car he washed, and \$2 for each newspaper he delivered. If Will and Demarius each earned the same amount of money during the given week by doing these three jobs, what is the value of x ?

- A) 9
- B) 10
- C) 11
- D) 12

2.

Domestic bees make their honeycombs with rings of hexagonal cells. The first ring of the honeycomb is made with 6 hexagonal cells, the second ring is made with 12 hexagonal cells, and the third ring is made with 18 hexagonal cells. If the number of hexagonal cells the domestic bees make for each ring continues in this linear pattern, which of the following functions represents the number of hexagonal cells, $c(r)$, in ring r of the honeycomb?

- A) $c(r) = 12r$
- B) $c(r) = 6r + 12$
- C) $c(r) = 6r + 6$
- D) $c(r) = 6r$

3.

$$(3.63 + 3.01i) + (5.44 - 5.22i)$$

Which of the following complex numbers equals the sum above?

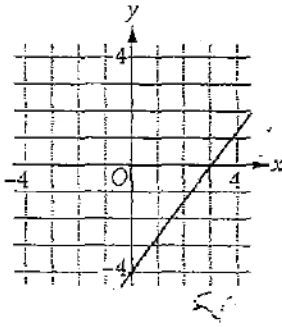
- A) $8.45 - 2.21i$
- B) $9.07 + 8.23i$
- C) $9.07 - 2.21i$
- D) $35.46 + 35.32i$



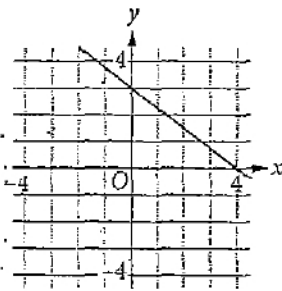
4

Which of the following is the graph of $y = \frac{4}{3}x - 4$ in the xy -plane?

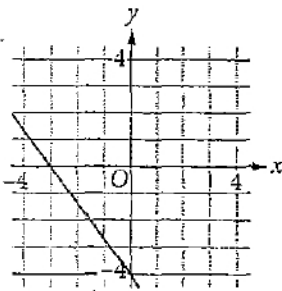
A)



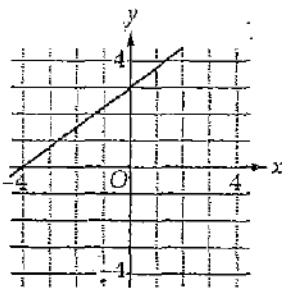
B)



C)



D)



5

$$\left(2n^3 + \frac{1}{2}\right) - \left(n^3 - \frac{1}{2}\right)$$

Which of the following is equivalent to the expression above?

- A) n^3
- B) $n^3 + 1$
- C) $n^3 - 1$
- D) $-n^3 + 1$

6

A museum sells only three types of tickets: child, adult, and senior tickets. On Friday, 340 tickets were sold, of which 95 were child tickets. The number of child tickets sold was more than the number of senior tickets sold but less than the number of adult tickets sold. What is the least possible number of adult tickets sold on Friday?

- A) 149
- B) 151
- C) 244
- D) 245



7

$$(x - 6)^2 + y^2 = 64$$

One equation in a system of equations is shown above. The graph of the second equation (not shown) is a vertical line in the xy -plane that crosses the x -axis at $(3, 0)$. For both y -coordinates of the solutions to the system of equations, what is the value of y^2 ?

- A) 32
- B) 35
- C) 55
- D) 58

8

A manager at a toy store tracks the sales and profits of two toys. Each unit of Toy A costs the store \$12 and sells for \$16. Each unit of Toy B costs the store \$6 and sells for \$9. If the store sells a total of 25 units between Toy A and Toy B, what is the minimum number of units of Toy A sold that would give the store a profit of at least \$90? (Profit is total sales minus total cost.)

- A) 10
- B) 15
- C) 23
- D) 30

9

Which of the following equations has exactly one real solution?

- A) $x^2 - 6x + 9 = 0$
- B) $x^2 - 5x + 6 = 0$
- C) $x^2 + 2x - 1 = 0$
- D) $x^2 + 3x - 9 = 0$

10

Which of the following is equivalent to $\frac{x^2 + 5x + 6}{x + 5}$?

- A) $x + 1$
- B) $x + 6$
- C) $x + \frac{6}{x + 5}$
- D) $x + \frac{6x}{x + 5}$

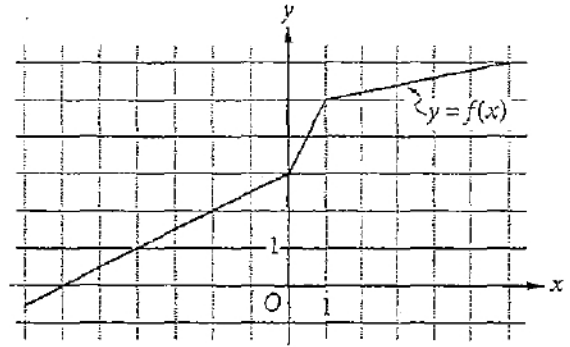


11

The population of a town was 34,000 in the year 2010. The function $P(n) = 34,000(1.09)^n$ can be used to estimate the population of the town n decades after 2010. What does the expression $P(n) - 34,000$ represent?

- A) The population of the town n decades after 2010
- B) The decrease in the population of the town over the n decades after 2010
- C) The increase in the population of the town over the n decades after 2010
- D) The percent increase in the population of the town over the n decades after 2010

12



In the xy -plane above, the graph of the function f on the interval $-7 \leq x \leq 6$ is shown. For which of the following values of c is $f(c-4) = c$?

- A) 0
- B) 1
- C) 3
- D) 5



13

$$y = \frac{1}{4}x$$

$$y = ax - b$$

The system of equations above has no solution (x, y) . Which of the following could be the values of a and b ?

- A) $a = \frac{1}{4}, b = 0$
- B) $a = \frac{1}{4}, b = 1$
- C) $a = -4, b = 0$
- D) $a = -4, b = 1$

14

Which of the following is equivalent to $(\sqrt{a} + \sqrt{b})^{\frac{2}{3}}$,

where $a > 0$ and $b > 0$?

- A) $(a + b)^{\frac{2}{3}}$
- B) $\sqrt[3]{a + b}$
- C) $(a + 2\sqrt{ab} + b)^{\frac{1}{3}}$
- D) $\sqrt[3]{a + 2ab + b}$

15

$$f(x) = a[(x - a)^2 + 1]$$

In the function f defined above, $a > 1$. Which of the following best represents the graph of f in the xy -plane?

- A)
- B)
- C)
- D)



DIRECTIONS

For questions 16-20, solve the problem and enter your answer in the grid, as described below, on the answer sheet.

- Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately. You will receive credit only if the circles are filled in correctly.
- Mark no more than one circle in any column.
- No question has a negative answer.
- Some problems may have more than one correct answer. In such cases, grid only one answer.
- Mixed numbers** such as $3\frac{1}{2}$ must be gridded as 3.5 or 7/2. (If $\begin{array}{|c|c|c|c|} \hline 3 & 1 & / & 2 \\ \hline \bigcirc & \bigcirc & \bigcirc & \bigcirc \\ \hline \end{array}$ is entered into the grid, it will be interpreted as $\frac{31}{2}$, not $3\frac{1}{2}$.)
- Decimal answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid.

Answer: $\frac{7}{12}$

	7	/	1	2
⊙	⊙	⊙	⊙	⊙
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

← Fraction line

Answer: 2.5

	2	.	5
⊙	⊙	⊙	⊙
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

← Decimal point

Acceptable ways to grid $\frac{2}{3}$ are:

	2	/	3
⊙	⊙	⊙	⊙
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7

.	6	6	6
⊙	⊙	⊙	⊙
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7

.	6	6	7
⊙	⊙	⊙	⊙
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7

Answer: 201 – either position is correct

	2	0	1
⊙	⊙	⊙	⊙
1	1	1	1
2	2	2	2

	2	0	1
⊙	⊙	⊙	⊙
1	1	1	1
2	2	2	2

NOTE: You may start your answers in any column, space permitting. Columns you don't need to use should be left blank.



16

$$5w - 12 = 3w$$

What value of w is the solution of the equation above?

17

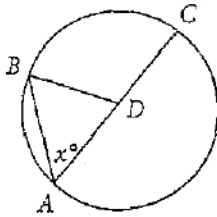
If $a^2 - b^2 = 21$ and $a - b = 3$, what is the value of $a + b$?

18

Gemma bought 4 rosebushes and 3 azaleas. The price of each rosebush was \$7.50. Gemma's subtotal for the 4 rosebushes and the 3 azaleas was \$46.50, before sales tax was added. What was the price, in dollars, of each azalea before sales tax if the 3 azaleas each had the same price? (Disregard the \$ sign when gridding your answer. For example, if your answer is \$1.37, grid 1.37)



19



Note: Figure not drawn to scale.

In the circle above, D is the center, \overline{AC} is a diameter, and point B lies on the circle. If $AB = BD$, what is the value of x ?

20

$$x^2 + y^2 + 2x - 8y = 8$$

The equation of a circle in the xy -plane is shown above. What is the radius of the circle?

STOP

If you finish before time is called, you may check your work on this section only.

Do not turn to any other section.



Math Test – Calculator

55 MINUTES, 38 QUESTIONS

Turn to Section 4 of your answer sheet to answer the questions in this section.

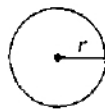
DIRECTIONS

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NOTES

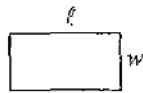
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REFERENCE



$$A = \pi r^2$$

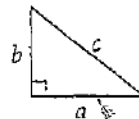
$$C = 2\pi r$$



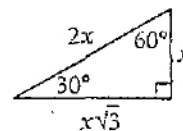
$$A = \ell w$$



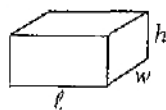
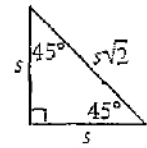
$$A = \frac{1}{2}bh$$



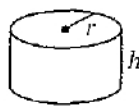
$$c^2 = a^2 + b^2$$



Special Right Triangles



$$V = \ell wh$$



$$V = \pi r^2 h$$



$$V = \frac{4}{3}\pi r^3$$



$$V = \frac{1}{3}\pi r^2 h$$



$$V = \frac{1}{3}\ell wh$$

The number of degrees of arc in a circle is 360.

The number of radians of arc in a circle is 2π .

The sum of the measures in degrees of the angles of a triangle is 180.



1

	Gold	Silver	Bronze	Total
Canada	14	7	5	26
Norway	9	8	6	23
South Korea	6	6	2	14
Total	29	21	13	63

The table above shows the number of gold, silver, and bronze medals awarded to three of the countries that participated in the 2010 Olympic Winter Games. Of the 63 medals awarded to these countries, what fraction were silver?

- A) $\frac{1}{3}$
 B) $\frac{1}{4}$
 C) $\frac{1}{6}$
 D) $\frac{1}{21}$

2

The sum of 3 and a is less than the product of $\frac{b}{2}$ and 4.

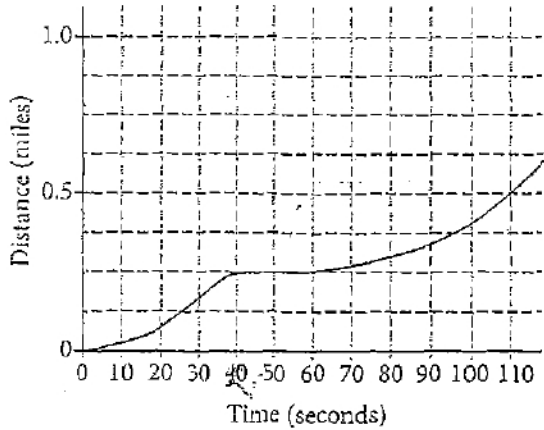
The statement above is equivalent to which of the following inequalities?

- A) $3 < a + 2b$
 B) $3a < 2 + b$
 C) $a + 3 < 2b$
 D) $a + 3 > 2b$



3

Total Distance Traveled versus Time



Chris drove his car from his home to a traffic light, stopped at the traffic light, and then continued to drive. The distance Chris drove and the time since Chris began to drive are shown in the graph above. Which of the following best approximates the number of seconds that Chris was stopped at the traffic light?

- A) 10
- B) 20
- C) 30
- D) 40

4

$$4x + 3y = 11$$

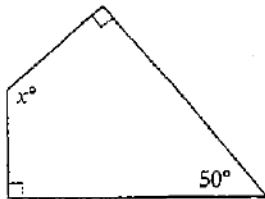
$$3x + 2y = 7$$

Which ordered pair, (x, y) , is the solution to the system of equations above?

- A) $(5, -1)$
- B) $(3, 1)$
- C) $(1, 2)$
- D) $(-1, 5)$



5



What is the value of x in the quadrilateral above?

- A) 125
- B) 130
- C) 135
- D) 140

6

If $y = 6x^2 + 2x + 8$ and $z = 3x^2 + 9x + 5$, what is $y + z$ in terms of x ?

- A) $9x^2 + 11x + 13$
- B) $18x^2 + 18x + 40$
- C) $9x^4 + 11x^2 + 13$
- D) $18x^4 + 18x^2 + 40$



7

A marketing executive plans to survey 300 potential car buyers to determine which car feature customers value most. Which of the following sample groups is most likely to represent all potential car buyers?

- A) 300 first-time car buyers selected at random
- B) 300 potential car buyers selected at random
- C) The first 300 first-time car buyers who enter a certain car dealership
- D) The first 300 potential car buyers who enter a certain car dealership

8

If y is 3 less than twice x and $y = 0$, what is the value of x ?

- A) 1
- B) $\frac{3}{2}$
- C) $\frac{5}{2}$
- D) 3



9

If $y = 5(2^x)$, where $x > 0$, which of the following is true?

- A) If x increases by 1, then y doubles.
- B) If y increases by 1, then x doubles.
- C) If x increases by 1, then y increases by 5.
- D) If y increases by 1, then x increases by 5.

10

The number of city residents, y , in Philadelphia from 1980 to 2000 can be modeled by the linear equation $y = -8,533x + 1,688,210$, where x is the number of years after 1980. What does the number 8,533 represent?

- A) The percent of city residents leaving Philadelphia after 1980
- B) The ratio of the number of city residents remaining in Philadelphia to the number of years since 1980
- C) The number of city residents remaining in Philadelphia in 2000
- D) The average decrease in the number of city residents of Philadelphia each year from 1980 to 2000



Questions 11-13 refer to the following information.

At regular checkups, a pediatrician measures Anne's height and weight and reports each as a percentile for her age. For example, when Anne was 24 months old, her weight percentile of 65 indicated that 65% of children that age were at or below Anne's weight. Anne's results for 6 checkups are shown below.

Checkup age	Height percentile	Weight percentile
1 month	40	35
3 months	45	45
6 months	55	50
12 months	60	55
18 months	55	55
24 months	50	65

11

What is Anne's median height percentile for these 6 checkups?

- A) 50.8
- B) 52.5
- C) 55
- D) 57.5

12

If p represents the height percentile value reported for Anne during the 6 checkups, which of the following is true?

- A) $|p| \leq 10$
- B) $|p - 10| \leq 5$
- C) $|p - 40| \leq 10$
- D) $|p - 50| \leq 10$

13

Which of the following values is larger for the weight percentile data than for the height percentile data?

- A) Mean
- B) Median
- C) Mode
- D) Range



14

Which of the following is a value of x that satisfies $6 + 5x = (2 - 3x)^2$ but does not satisfy $\sqrt{6 + 5x} = 2 - 3x$?

- A) 2
- B) 1
- C) $-\frac{1}{9}$
- D) $-\frac{6}{5}$

15

The points $(-3, 0)$, $(1, 0)$, and $(2, 0)$ all lie in the xy -plane on the graph of the polynomial function f . Which of the following could define f ?

- A) $f(x) = (x + 1)(x + 2)(x - 3)$
- B) $f(x) = (x + 1)(x - 2)(x + 3)$
- C) $f(x) = (x - 1)(x + 2)(x + 3)$
- D) $f(x) = (x - 1)(x - 2)(x + 3)$



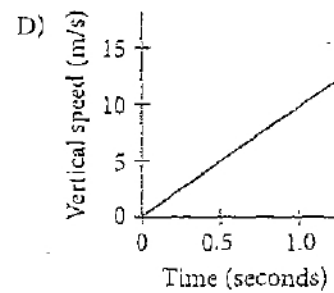
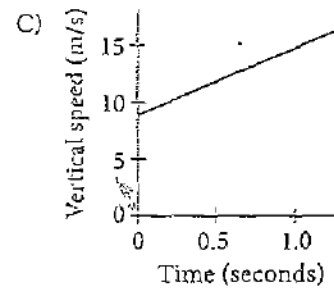
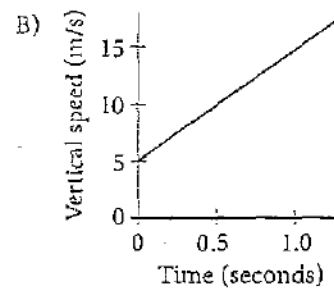
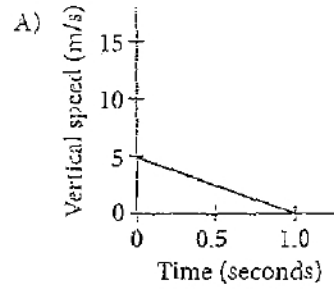
Questions 16-18 refer to the following information.

$$v = 9.8t + 5$$

The equation above models the vertical speed v , in meters per second, of a skydiver t seconds after jumping down out of an airplane, where the effect of air resistance has been ignored.

16

Which of the following displays the graph of the vertical speed, in meters per second (m/s), of the skydiver based on the number of seconds after the jump began?





17

Which of the following equations can be used to find the number of seconds, t , after jumping at which the skydiver's vertical speed is v meters per second?

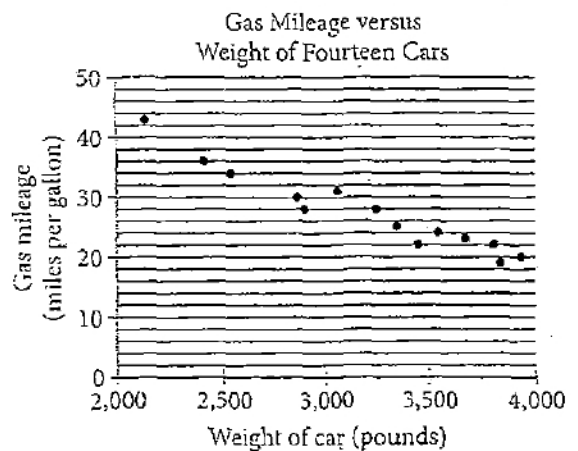
- A) $t = \frac{v}{9.8} - 5$
 B) $t = 5 - \frac{v}{9.8}$
 C) $t = \frac{v - 5}{9.8}$
 D) $t = \frac{5 - v}{9.8}$

18

Which of the following describes the meaning of the number 5 in the equation $v = 9.8t + 5$?

- A) The starting position of the skydiver
 B) The initial vertical speed of the skydiver
 C) The acceleration of the skydiver
 D) The number of meters the skydiver travels each second

19

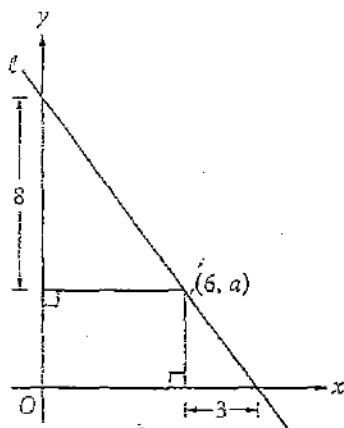


The scatterplot above shows the weight and gas mileage of fourteen cars. Which of the following can be concluded from the data in the scatterplot?

- A) If the weight of car A is greater than the weight of car B, then the gas mileage of car A is greater than the gas mileage of car B.
 B) If the weight of car A is greater than the gas mileage of car B, then the gas mileage of car A is less than the gas mileage of car B.
 C) A line of best fit for the data has a positive slope.
 D) A line of best fit for the data has a negative slope.



20



In the xy -plane above, what is the value of a ?

- A) 6
- B) 4.5
- C) 4
- D) 3

21

A random sample of 100 Popcorn Haven consumers was selected to taste Popcorn Haven's new caramel and chocolate covered popcorn. Of these consumers, 95 disliked the taste of the new popcorn flavor. Which of the following is the best inference to make from the results?

- A) It is likely that most people who have never eaten Popcorn Haven popcorn would enjoy the new popcorn flavor.
- B) It is likely that most people who have eaten Popcorn Haven popcorn would dislike the new popcorn flavor.
- C) On average, 95% of all popcorn eaters would dislike the new popcorn flavor.
- D) Of all the Popcorn Haven popcorn eaters, exactly 95% of them would dislike the new popcorn flavor.



22

h	$k(h)$
30	490
20	980
10	1,470
0	1,960

The table above shows several values of the function k for $0 \leq h \leq 30$. Of the following, which equation could define the function k ?

- A) $k(h) = \frac{49}{3}h$
- B) $k(h) = \frac{49}{90}h^2$
- C) $k(h) = 1,960 - 49h$
- D) $k(h) = 1,960 - 490h$

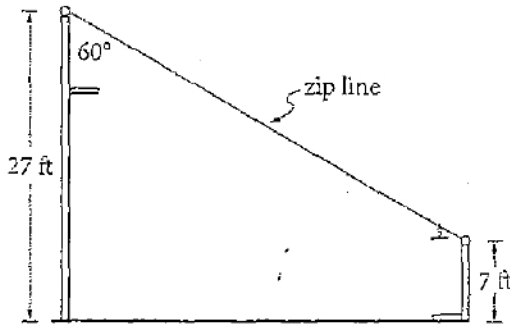
23

Water flows from a lake at a constant rate. Which of the following statements correctly describes the type of function that would best model the total amount of water that has flowed from the lake?

- A) Exponential growth, because the total amount of water that has flowed is increasing by the same amount each second
- B) Exponential growth, because the total amount of water that has flowed is increasing by the same percentage each second
- C) Increasing linear, because the total amount of water that has flowed is increasing by the same amount each second
- D) Increasing linear, because the total amount of water that has flowed is increasing by the same percentage each second



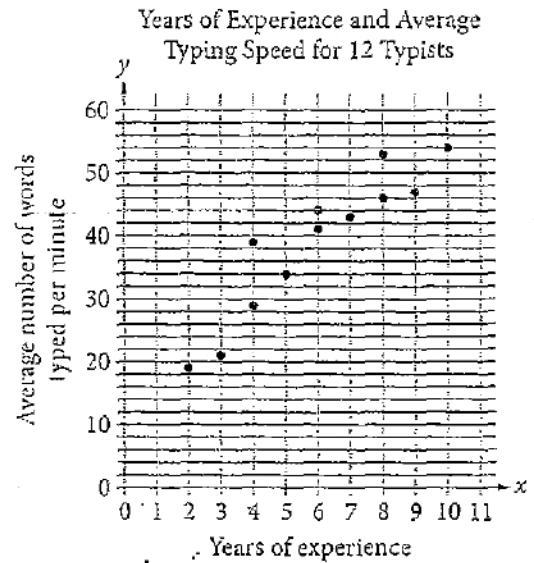
24



The diagram above is for a zip line that is being designed for an amusement park. The higher end of the zip line will be attached to a pole at a point 27 feet above the ground. The lower end of the zip line will be attached to a second pole at a point 7 feet above the ground. How far apart, in feet, will the two poles be?

- A) $20\sqrt{3}$
- B) $20\sqrt{5}$
- C) 20
- D) 40

25



Of the following equations, which best models the line of best fit for the data in the scatterplot above?

- A) $y = 4.25x$
- B) $y = 4.25x + 14$
- C) $y = 8.25x$
- D) $y = 8.25x + 4$



26

A radioactive substance decays by approximately the same percentage each year. A function of which of the following forms best models the amount, in milligrams, y , of the substance remaining x years from now, where m and p are positive constants?

- A) $y = px$
- B) $y = px - m$
- C) $y = (1 + p)^x$
- D) $y = m(1 - p)^x$

27

In the xy -plane, the line with equation $x - 2y = 6$ is reflected across the y -axis. Which of the following is an equation of the reflected line?

- A) $y = -2x - 6$
- B) $y = -2x - 3$
- C) $y = -\frac{1}{2}x - 3$
- D) $y = \frac{1}{2}x - 3$

28

Arlene is a clothing store manager and she set the price for a pair of jeans at \$40 and is selling 120 pairs each week. She estimates that if she changes the price by x dollars, where x can be positive or negative, she will sell $120 - 3x$ pairs of jeans a week, for a total of $(40 + x)(120 - 3x)$ dollars in sales. According to her estimate, what will result in the greatest value of sales?

- A) Decreasing the price by \$2.50
- B) Decreasing the price by \$1.50
- C) Leaving the price unchanged
- D) Increasing the price by \$2.00



29

Opinions on the Proposal

	For	Against	Undecided	Total
District 1	108	135	27	270
District 2	140	175	35	350
Total	248	310	62	620

The table above shows the results of a poll that was used to determine support for a town proposal. The results are categorized by the district a respondent lives in and by opinion. One of the respondents is to be selected at random. Based on the table, which of the following statements is false?

- A) The probability that the respondent is from district 2 is greater than $\frac{1}{2}$.
- B) The probability that the respondent is against the proposal is equal to $\frac{1}{2}$.
- C) The probability that the respondent is an undecided resident of district 1 is less than $\frac{1}{20}$.
- D) The probability that the respondent is from district 2 is dependent on whether or not the respondent is for the proposal.

30

A stock increased in value by 7% on Wednesday and then decreased in value by 4% on Thursday. What was the net percentage increase in the value of the stock from the end of the day on Tuesday to the end of the day on Thursday?

- A) 2.72%
- B) 2.88%
- C) 3.00%
- D) 3.28%

**DIRECTIONS**

For questions 31-38, solve the problem and enter your answer in the grid, as described below, on the answer sheet.

- Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately. You will receive credit only if the circles are filled in correctly.
- Mark no more than one circle in any column.
- No question has a negative answer.
- Some problems may have more than one correct answer. In such cases, grid only one answer.
- Mixed numbers such as $3\frac{1}{2}$ must be gridded as 3.5 or 7/2. (If $\begin{array}{|c|c|c|c|} \hline 3 & 1 & / & 2 \\ \hline \bullet & & & \\ \hline \end{array}$ is entered into the grid, it will be interpreted as $\frac{31}{2}$, not $3\frac{1}{2}$.)
- Decimal answers: If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid.

Write answer in boxes. →

Answer: $\frac{7}{12}$

7	/	1	2
○	●	○	○
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○	○	○	○
○	○	○	○
○	○	○	○
○	○	○	○

← Fraction line

Grid in result.

Answer: 2.5

2	.	5	
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○	○	○	○
○	○	○	○

← Decimal point

Acceptable ways to grid $\frac{2}{3}$ are:

2	/	3	
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.	6	6	6
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.	6	6	7
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○	○	○	○

Answer: 201 – either position is correct

2	0	1	
○	○	○	○
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2	0	1	
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○	○	○	○
○	○	○	○

NOTE: You may start your answers in any column, space permitting. Columns you don't need to use should be left blank.



31

$$1 \text{ palm} = 4 \text{ fingers}$$

$$1 \text{ royal cubit} = 7 \text{ palms}$$

The equations above give the relationships between some ancient Egyptian units of length. A length of 28 fingers is equivalent to how many royal cubits?

32

Price of Lunch Specials

Monday - \$10.00



Tuesday - \$12.00



Wednesday - \$8.00



Thursday - \$10.00

Friday - \$9.00



Based on the menu above, by how much does the price, in dollars, of the lunch special on Tuesday exceed the average (arithmetic mean) price of the lunch special for the 5 days shown? (Disregard the \$ sign when gridding your answer. For example, if your answer is \$1.37, grid 1.37)



33

The square of n is equal to the sum of twice n and 24. If n is positive, what is the value of n ?

34

A rectangular park has side lengths of 150 yards and 360 yards. Sylvia and Amber both walk from one corner to the opposite corner, but Sylvia walks along the rectangular edges of the park and Amber walks along the diagonal. How many more yards does Sylvia walk than Amber?



35

Linda has \$7 more than twice the amount of money Curtis has. If they have no more than \$100 combined, what is the maximum number of dollars that Curtis could have? (Disregard the \$ sign when gridding your answer.)

36

When Michael swims he burns 9 calories per minute, and when he walks he burns 4 calories per minute. If Michael spends a total of 4 hours walking and swimming and burns a total of 1600 calories, how many minutes did he spend walking?



Questions 37 and 38 refer to the following information.

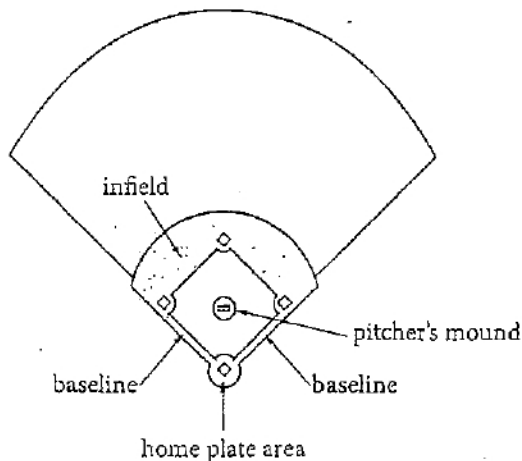
A combination of clay, sand, and silt is often used to create parts of a baseball field. An infield mixture is used to construct the infield, baselines, and home plate area. A different mixture is sometimes used to construct the pitcher's mound. A community recreation department is constructing a new baseball field using dirt mixtures in the volume ratios shown in the tables below.

Infield Mixture
(Infield, Baselines, and Home Plate Area)

Sand to clay	3 : 1
Sand to silt	3 : 1
Clay to silt	1 : 1

Pitcher's Mound Mixture

Sand to clay	2 : 1
Sand to silt	1 : 1
Clay to silt	1 : 2



37

What is the difference in the percent of silt in the pitcher's mound mixture and the percent of silt in the infield mixture? (Ignore the percent sign when gridding your answer. For example, if your answer is 35%, grid 35)

38

A pitcher's mound is being built with 1.6 cubic meters of clay. What is the total volume, in cubic meters, of the materials in the mixture for the pitcher's mound?

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section.