

Released Test Questions

Math

7

1 Which shows 833,000 written in scientific notation?

- A 8.33×10^3
- B 8.33×10^4
- C 8.33×10^5
- D 8.33×10^6

2 $\left(\frac{2}{3}\right)^4 =$

- A $\frac{8}{81}$
- B $\frac{16}{81}$
- C $\frac{8}{3}$
- D $\frac{16}{3}$

3 Roberto paid \$43.08 for 3 CDs. All 3 CDs were the same price. How much did each CD cost?

- A \$11.36
- B \$14.36
- C \$40.08
- D \$46.08

4 Which of the following is equivalent to $\frac{5}{2}$?

- A 2.25
- B 2.5
- C 5.2
- D 5.25

5 Tasha is buying a CD that is regularly \$12.99 and is on sale for $\frac{1}{4}$ off. Which expression can she use to estimate the discount on the CD?

- A $0.0025 \times \$13$
- B $0.04 \times \$13$
- C $0.25 \times \$13$
- D $0.40 \times \$13$

6 Which is an irrational number?

- A $\sqrt{5}$
- B $\sqrt{9}$
- C -1
- D $-\frac{2}{3}$

7 Which fraction is the same as 3.08?

A $\frac{56}{25}$

B $\frac{77}{25}$

C $\frac{19}{5}$

D $\frac{32}{5}$

8 A sweater originally cost \$37.50. Last week, Moesha bought it at 20% off.



How much was deducted from the original price?

A \$7.50

B \$17.50

C \$20.00

D \$30.00

9 Jason bought a jacket on sale for 50% off the original price and another 25% off the discounted price. If the jacket originally cost \$88, what was the final sale price that Jason paid for the jacket?

A \$22

B \$33

C \$44

D \$66

10 Marl borrowed \$200 at 12% simple interest for one year. If he makes no payments that year, how much interest will he owe at the end of the year?

A \$6.00

B \$12.00

C \$22.40

D \$24.00

11 Tamika works in a shoe store and is paid a 12% commission on her sales. In January her sales total was \$3740. To the nearest dollar, how much did Tamika earn in commission for January?

A \$312

B \$449

C \$3291

D \$4189

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12 Which of the following has the same value as $5^6 \times 5^{-2}$?

- A 5^{-12}
- B 5^{-3}
- C 5^4
- D 5^8

13 Which of the following shows the next step using the least common denominator to simplify $\frac{7}{8} - \frac{5}{6}$?

- A $\left(\frac{7}{8} \times \frac{3}{3}\right) - \left(\frac{5}{6} \times \frac{4}{4}\right)$
- B $\left(\frac{7}{8} \times \frac{4}{4}\right) - \left(\frac{5}{6} \times \frac{3}{3}\right)$
- C $\left(\frac{7}{8} \times \frac{5}{5}\right) - \left(\frac{5}{6} \times \frac{7}{7}\right)$
- D $\left(\frac{7}{8} \times \frac{7}{7}\right) - \left(\frac{5}{6} \times \frac{5}{5}\right)$

14

$$\frac{4^2 \cdot 3^5 \cdot 2^4}{4^3 \cdot 3^5 \cdot 2^2} =$$

- A $\frac{4}{2}$
- B $\frac{3}{2}$
- C 1
- D $\frac{1}{2}$

15 Which expression is equivalent to $7^5 \times 7^{10}$?

- A 7^{15}
- B 7^{50}
- C 49^{15}
- D 49^{50}

16

$$\sqrt{225} =$$

- A 15
- B 25
- C 35
- D 45

17

$$|9 - 5| - |6 - 8| =$$

- A -6
- B -2
- C 2
- D 6

18 Which expression has the *smallest* value?

- A $|-19|$
 - B $|-34|$
 - C $|11|$
 - D $|47|$
-

19 The sum of a number (n) and 14 is 72. Which equation shows this relationship?

- A $14 + n = 72$
 - B $72n = 14$
 - C $14 - n = 72$
 - D $72 + n = 14$
-

20 If $x = 4$ and $y = 3$, then $xy - 2x =$

- A 4
- B 6
- C 19
- D 40

21 Which operation will change the value of any nonzero number?

- A adding zero
 - B multiplying by zero
 - C multiplying by one
 - D dividing by one
-

22 Which property is used in the equation below?

$$12(x + 4) = 12x + 48$$

- A Associative Property of Addition
 - B Commutative Property of Addition
 - C Distributive Property
 - D Reflexive Property
-

23 Which expression is equivalent to $3x - 3y$?

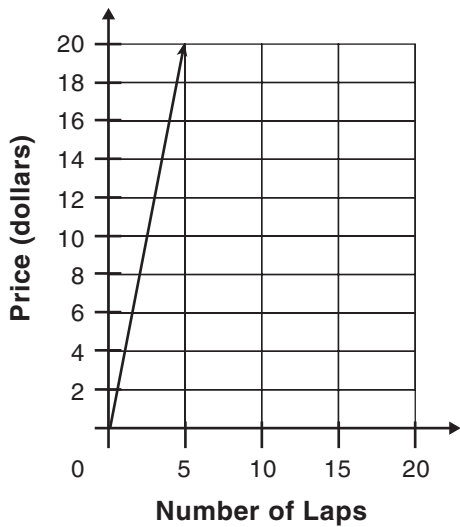
- A $3xy$
- B $3(x - y)$
- C $3x - y$
- D $x - 3y$

24 The table below shows the charges for renting and racing a go-cart.

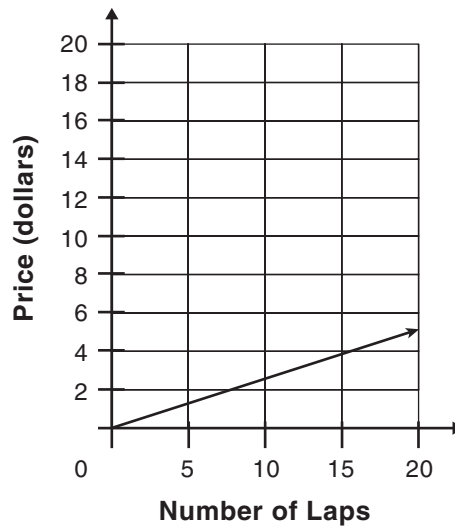
Grand Prix Go-Carts

| | | | | | | |
|-----------------|---|---|----|----|----|----|
| Number of Laps | 0 | 1 | 2 | 3 | 4 | 5 |
| Price (dollars) | 5 | 8 | 11 | 14 | 17 | 20 |

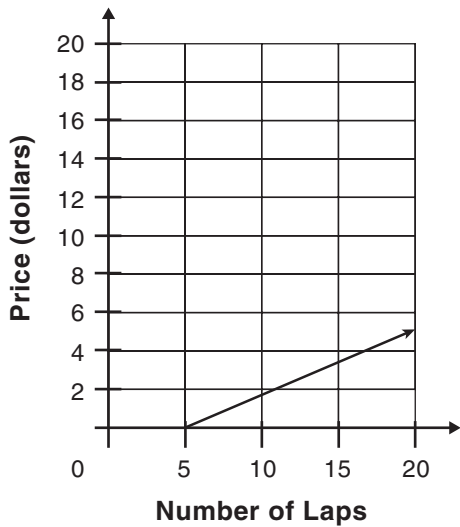
Which graph *best* represents these prices?



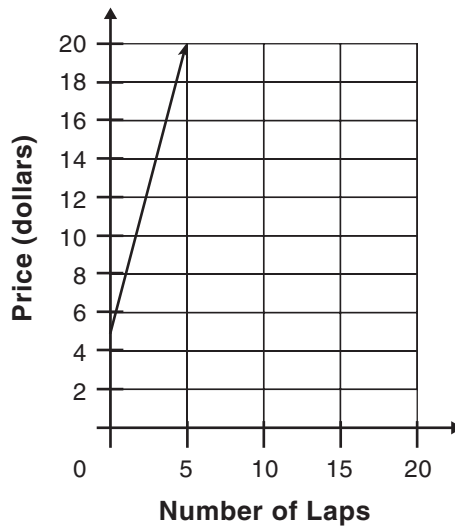
A



C



B



D

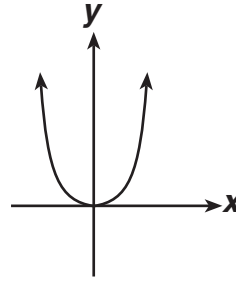
25 Which expression below has the same value as x^3 ?

- A $3x$
- B $x \div 3$
- C $x \cdot x \cdot x$
- D $3x \cdot 3x \cdot 3x$

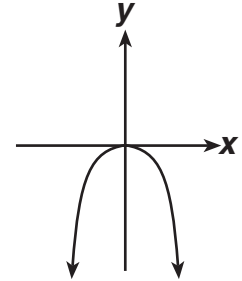
26 Which expression is equivalent to $\frac{8a^6}{2a^3}$?

- A $6a^2$
- B $6a^3$
- C $4a^2$
- D $4a^3$

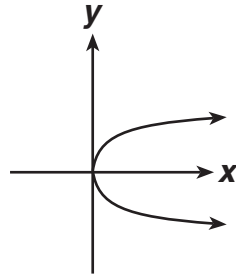
27 Which graph shows $y = -x^2$?



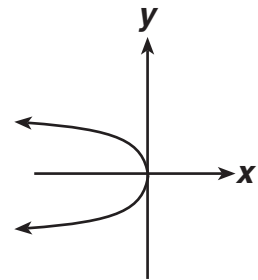
A



C



B



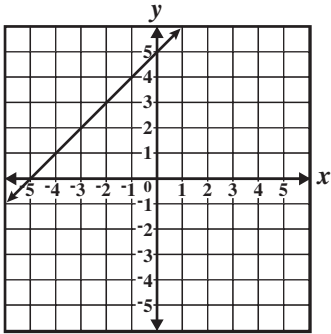
D

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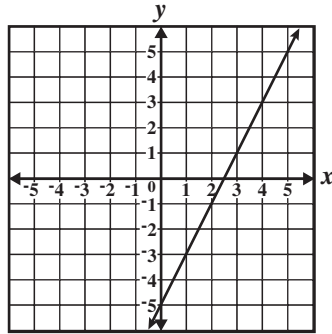
Math

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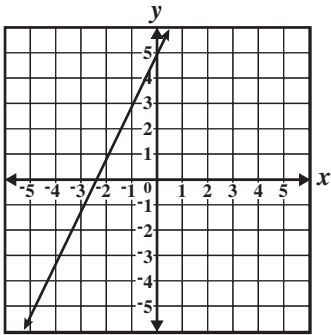
28 Which *best* represents the graph of $y = 2x - 5$?



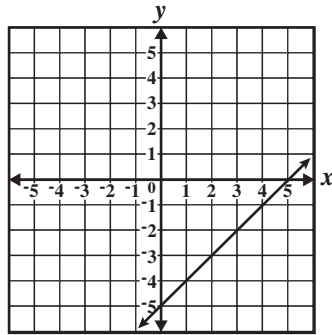
A



C

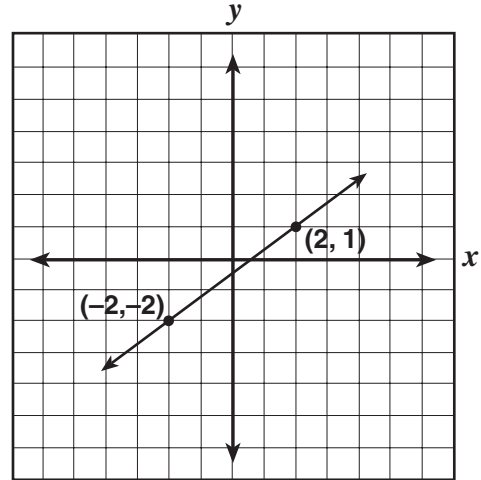


B



D

29 What is the slope of this line?



A $\frac{1}{2}$

B $\frac{3}{4}$

C 1

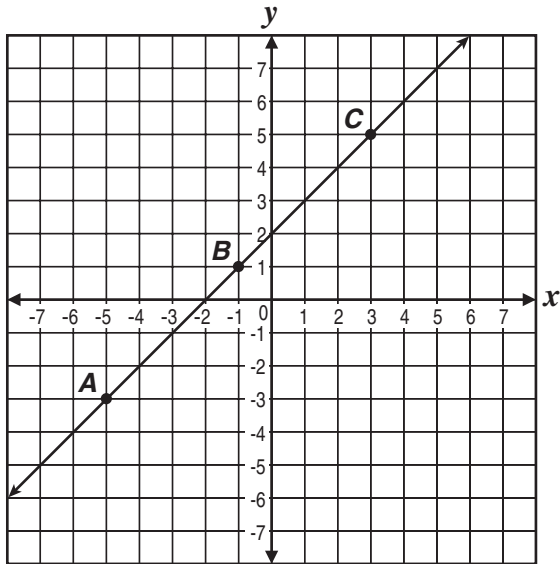
D $\frac{4}{3}$

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Math

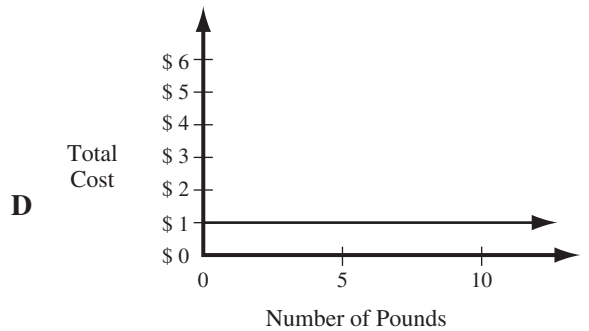
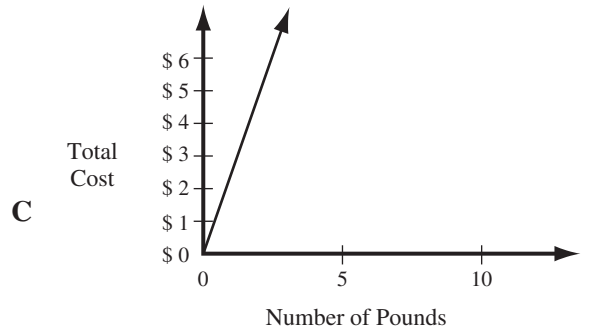
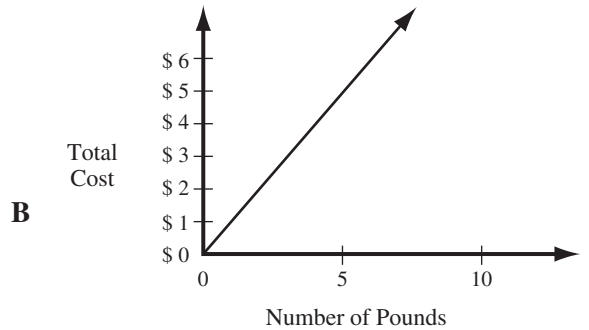
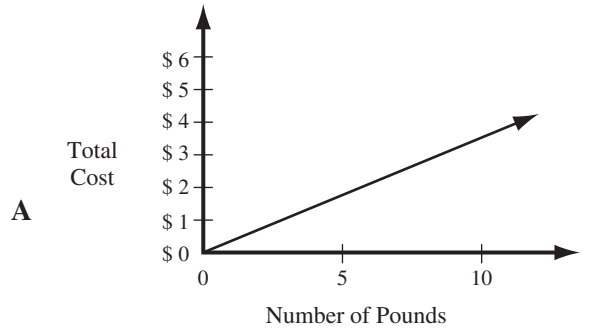
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30 Which statement is true about the slope of line \overleftrightarrow{AC} ?



- A The slope is the ratio of the x - and y -intercepts.
- B The slope is the same between any two points on the line.
- C The slope between point A and point B is greater than the slope between point B and point C.
- D The slope between point A and point C is greater than the slope between point A and point B.

31 Bananas are on sale at the price of 3 pounds for \$1.00. Which graph shows the relationship between the number of pounds of bananas bought and the total cost?



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- 32** What value of x makes the equation below true?

$$\frac{x}{9} + 6 = 8$$

- A 2
- B 18
- C 66
- D 126

- 33** What is the solution set to the inequality $6z + 5 > 35$?

- A $\{z: z < 5\}$
- B $\{z: z < 24\}$
- C $\{z: z > 5\}$
- D $\{z: z > 24\}$

- 34** What is the value of x if $-3x + 2 = -7$?

- A $x = -6$
- B $x = -3$
- C $x = 3$
- D $x = 6$

- 35** Joan needs \$60 for a class trip. She has \$32. She can earn \$4 an hour mowing lawns. If the equation shows this relationship, how many hours must Joan work to have the money she needs?

$$4h + 32 = 60$$

- A 7 hours
- B 17 hours
- C 23 hours
- D 28 hours

- 36** A duck flew at 18 miles per hour for 3 hours, then at 15 miles per hour for 2 hours. How far did the duck fly in all?

- A 69 miles
- B 75 miles
- C 81 miles
- D 84 miles

- 37** Juanita earns \$36 for 3 hours of work. At that rate, how long would she have to work to earn \$720?

- A 12 hours
- B 20 hours
- C 60 hours
- D 140 hours

- 38** The distance a spring stretches varies directly with the force applied to it. If a 7-pound weight stretches a spring a distance of 24.5 inches, how far will the spring stretch if a 12-pound weight is applied?

- A 3.4 inches
- B 19.5 inches
- C 42 inches
- D 294 inches

- 39** Marisa's car gets an average of 28 miles per gallon of gas. She plans to drive 200 miles today and 220 miles tomorrow. How many gallons of gas should she expect to use in all?

A 15 gallons
 B 28 gallons
 C 56 gallons
 D 67 gallons

- 40** How many millimeters are in 20 centimeters?

A 0.02 millimeters
 B 0.2 millimeters
 C 200 millimeters
 D 20,000 millimeters

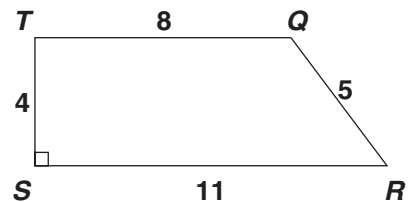
- 41** The chart below describes the speed of four desktop printers.

| Printer | Description |
|-------------|-------------------------------|
| Roboprint | Prints 2 pages per second |
| Voltronn | Prints 1 page every 2 seconds |
| Vantek Plus | Prints 160 pages in 2 minutes |
| DLS Pro | Prints 100 pages per minute |

Which printer is the *fastest*?

A Roboprint
 B Voltronn
 C Vantek Plus
 D DLS Pro

- 42** What is the area of trapezoid $QRST$ in square units? $\left(A = \frac{1}{2}h(b_1 + b_2) \right)$



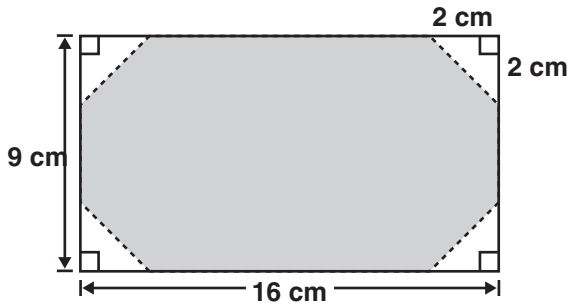
A 22
 B 27
 C 38
 D 48

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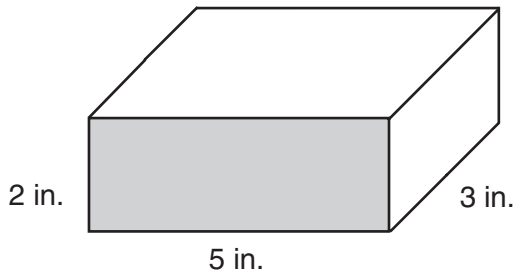
- 43 Cherie cut four congruent triangles off the corners of a rectangle to make an octagon, as shown below.



What is the area of the shaded octagon?

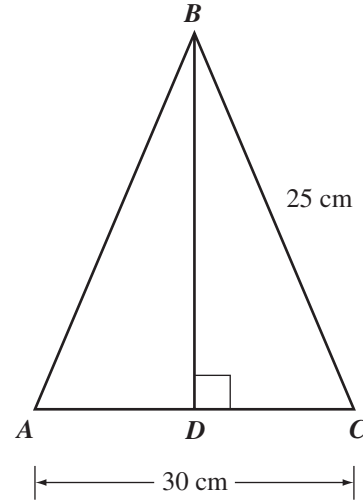
- A 128 cm²
- B 136 cm²
- C 140 cm²
- D 152 cm²

- 44 What is the volume of the rectangular solid shown below?



- A 10 cubic inches
- B 25 cubic inches
- C 30 cubic inches
- D 62 cubic inches

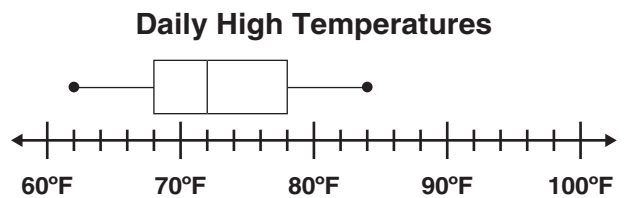
- 45 In the figure below, D is the midpoint of \overline{AC} , and \overline{BD} is perpendicular to \overline{AC} .



What is the length of \overline{BD} ?

- A 15 centimeters
- B 16 centimeters
- C 18 centimeters
- D 20 centimeters

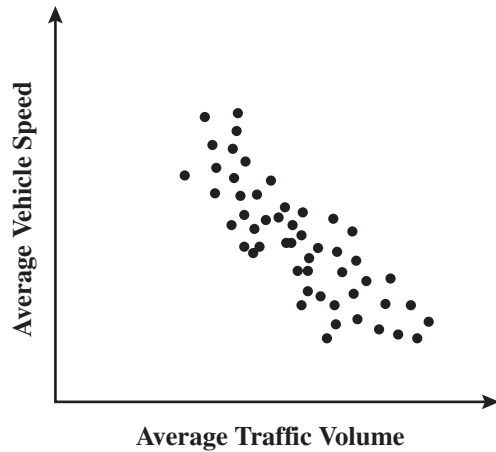
- 46 The box-and-whisker plot below represents the daily high temperatures at a beach in April.



What was the median daily high temperature?

- A 68°F
- B 72°F
- C 78°F
- D 84°F

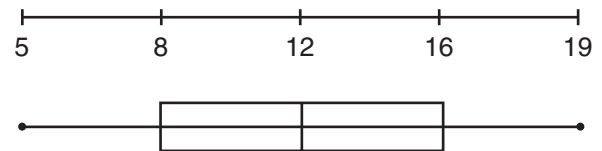
- 47 The scatter plot below shows the average traffic volume and average vehicle speed on a certain freeway for 50 days in 1999.



Which statement *best* describes the relationship between average traffic volume and average vehicle speed shown on the scatter plot?

- A As traffic volume increases, vehicle speed increases.
- B As traffic volume increases, vehicle speed decreases.
- C As traffic volume increases, vehicle speed increases at first, then decreases.
- D As traffic volume increases, vehicle speed decreases at first, then increases.

- 48 The following data represent the number of years different students in a certain group have gone to school together: 12, 5, 8, 16, 15, 9, 19. These data are shown on the box-and-whisker plot below.



What is the median of the data?

- A 5
- B 8
- C 12
- D 16