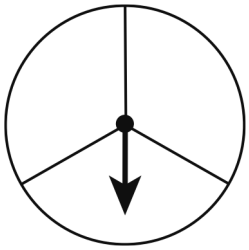
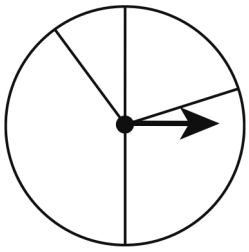
(1) The Diaz family used a spinner to play a game. The spinner was in the shape of a circle. Each section of the spinner was $\frac{1}{4}$ of the whole circle. Which picture shows a spinner that the Diaz family used?

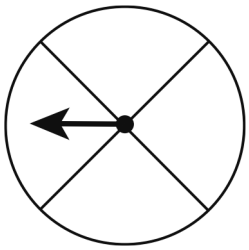
A.



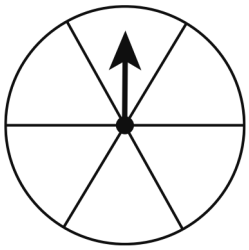
B.



C.



D.

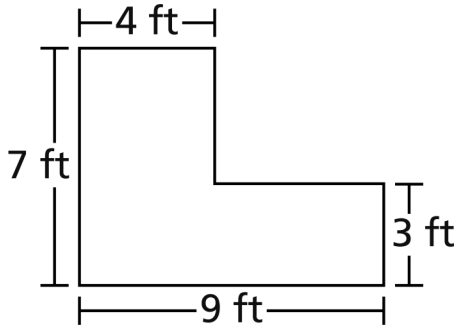


(2) Joe and Mike both ran the same race. Joe finished the race 4 minutes before Mike. If Mike finished the race at 4:02 pm, what time did Joe finish the race?

A. 3:58 pm B. 4:06 pm

C. 8:02 pm D. 12:02 pm

(3) The shape of Cindy's flower garden is shown below.



What is the area, in square feet, of Cindy's flower garden?

A. 23 B. 32 C. 43 D. 47

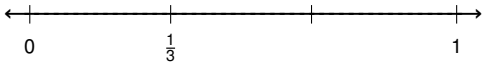
(4) Noel read 90 minutes each day for 6 days. Tyra read 60 minutes each day for 8 days. What is the difference, in minutes, between the total amount of time Noel read and the total amount of time Tyra read?

A. 30 B. 40 C. 60 D. 80

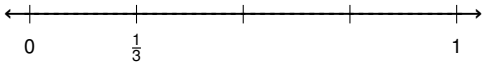
(5) Which number line shows the fraction $\frac{1}{3}$ plotted correctly?

A.

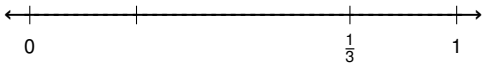
B.



C.



D.



(6) Anya placed 16 cups in rows on a table. There are 8 cups in each row. Which equation could be used to represent this situation?

A. $16 \times 8 = \square$ B. $8 + 16 = \square$

C. $\square \div 8 = 16$ D. $\square \times 8 = 16$

(7) Which pair of equations is true when the number 8 is placed in the blanks?

A. $4 \times \_\_\_\_ = 32$
$32 \div \_\_\_\_ = 4$

B. $5 \times \_\_\_\_ = 40$
$\_\_\_\_ \div 40 = 5$

C. $6 \times 48 = \_\_\_\_$
$48 \div \_\_\_\_ = 6$

D. $7 \times \_\_\_\_ = 63$
$63 \div \_\_\_\_ = 7$

(8) There are 12 students in Ms. Miller's class. She needs 24 juice boxes for a class party. The juice boxes come in packages of 6 juice boxes each. Which expression represents the number of packages of juice boxes Ms. Miller needs to buy for the class party?

A. $24 + 12$

B. $36 \div 6$

C. 12×6

D. $24 \div 6$

(9) Jimmy's teacher asked him to describe a situation in which the number of objects could be represented by $24 \div 4$.

Jimmy started his description, shown below. Complete the description so that the number of objects can be represented by $24 \div 4$.

A pet store had a total of 24 fish.

(10) Which letter has the *greatest* number of lines of symmetry?

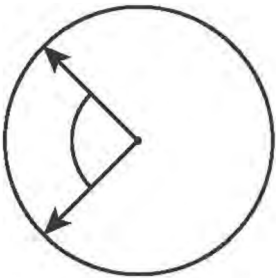
A. 

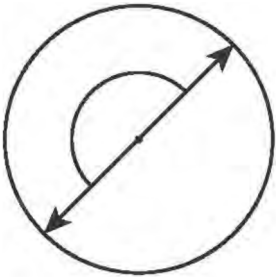
B. 

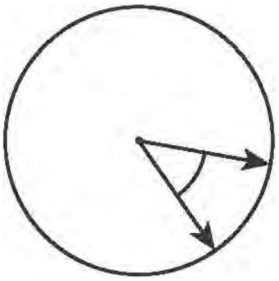
C. 

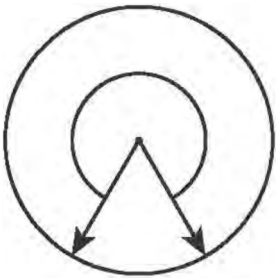
D. 

(11) Which model shows an angle that appears to represent $\frac{45}{360}$ of a circle?

A. 

B. 

C. 

D. 

(12) Movie tickets cost $9.25 each and a large order of popcorn costs $7.75. What is the total cost of 5 movie tickets and a large order of popcorn?

A. $22.00

B. $48.00

C. $54.00

D. $85.00

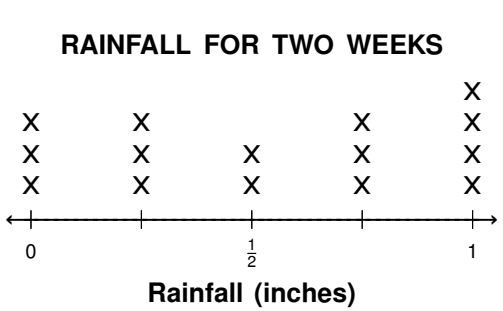
(13) For a science project, Joseph recorded the amount of rainfall each day for 2 weeks. The table below shows his data.

RAINFALL FOR TWO WEEKS

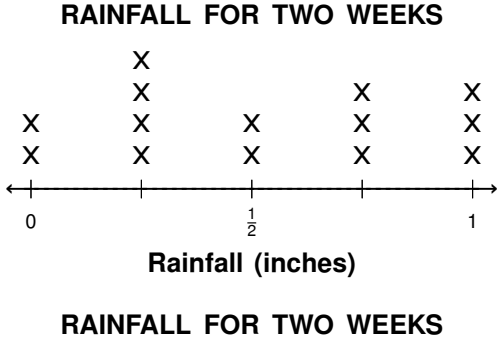
Inches of Rainfall	0	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Number of Days	3	3	2	4	2

Which line plot correctly displays Joseph's data?

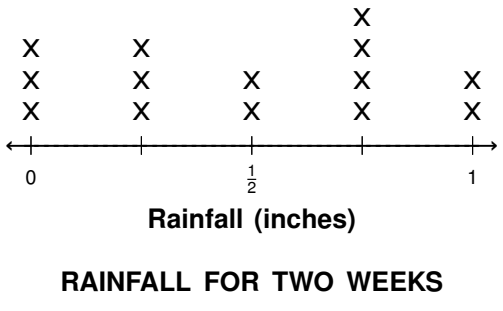
A.



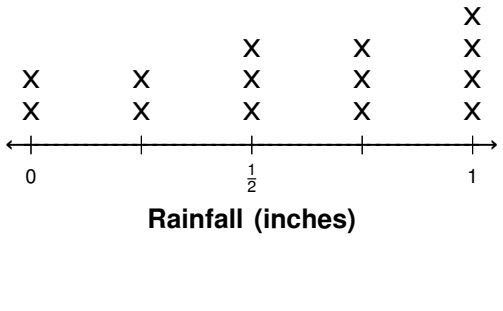
B.



C.



D.



(14) What is the quotient of 1,248 ÷ 7?

A. 177 remainder 9 B. 168 remainder 2

C. 178 remainder 2 D. 178 remainder 3

(15) The workers at Cameron's Flower Shop are putting 1,323 flowers into vases for a party. Each vase must hold exactly 8 flowers. What is the total number of vases the workers can fill completely?

(16) The value of the digit 5 in 24,513 is how many times the value of the digit 5 in 357?

A. 10 B. 100

C. 1,000 D. 10,000

(17) Which number is sixteen thousand four hundred seventy-two in standard form?

A. 16,472 B. 16,702

C. 160,472 D. 164,702

(18) Ms. Turner drove 825 miles in March. She drove 3 times as many miles in March as she did in January. She drove 4 times as many miles in February as she did in January. What was the total number of miles Ms. Turner drove in February?

A. 1,100 B. 1,925

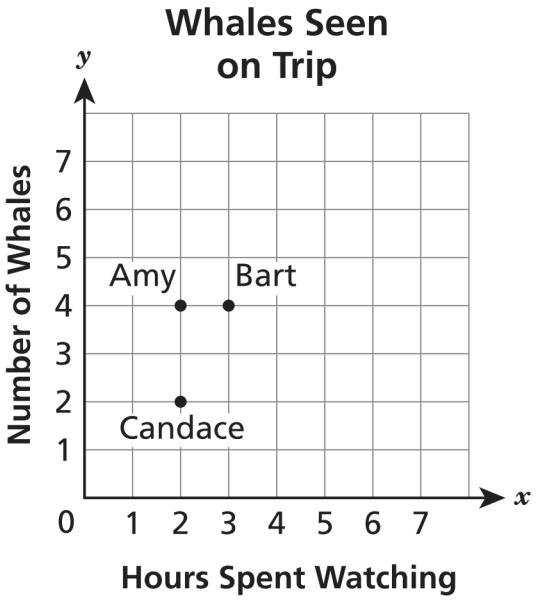
C. 5,775 D. 9,900

(19) Parallelograms *always* belong to which category of shapes?

A. squares B. rectangles

C. rhombuses D. quadrilaterals

(20) Amy, Bart, and Candace each went on a whale watching trip. On the coordinate plane below, x represents the number of hours they spent whale watching and y represents the number of whales seen.



Which statement is true based on the points plotted on the grid?

A. Bart saw 3 whales in 4 hours.

B. Bart saw 1 more whale than Amy.

C. Amy and Bart saw the same number of whales.

D. Amy and Candace saw the same number of whales.

(21) Min wants to make 100 name tags with ribbons attached to them. Each name tag requires five centimeters of ribbon. She has 3.25 meters of ribbon. Exactly how many more centimeters of ribbon does Min still need to make 100 name tags?

A. 175 B. 305 C. 325 D. 825

(22) Mr. Smith has 1,104 student photos to display around the school. He plans to put them on 48 poster boards with the same number of photos on each poster board. How many student photos will Mr. Smith place on each poster board?

A. 20 B. 22 C. 23 D. 24

(23) Which expression shows 40.54 in expanded form?

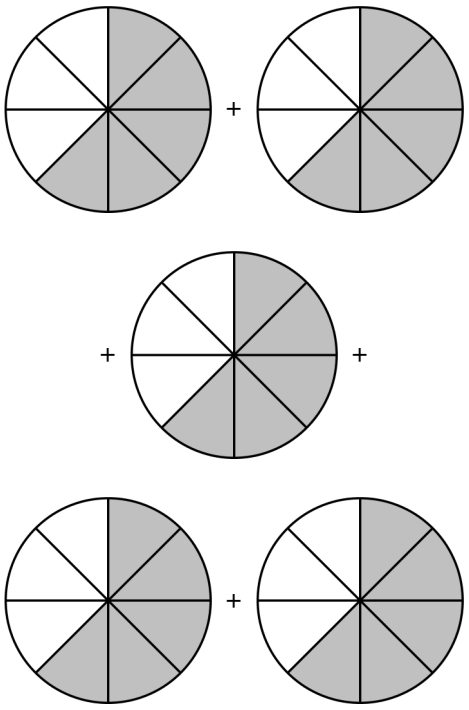
A. $(4 \times 10) + \left(5 \times \frac{1}{10}\right) + \left(4 \times \frac{1}{100}\right)$

B. $(4 \times 1) + \left(5 \times \frac{1}{10}\right) + \left(4 \times \frac{1}{100}\right)$

C. $(4 \times 10) + (5 \times 1) + \left(4 \times \frac{1}{100}\right)$

D. $(4 \times 10) + (5 \times 1) + \left(4 \times \frac{1}{10}\right)$

(24) Which expression could be represented by the shaded parts of the model below?



A. $\frac{5}{8} + \frac{5}{5}$ B. $\frac{5}{8} \times \frac{5}{5}$

C. $\frac{5}{8} + 5$ D. $\frac{5}{8} \times 5$

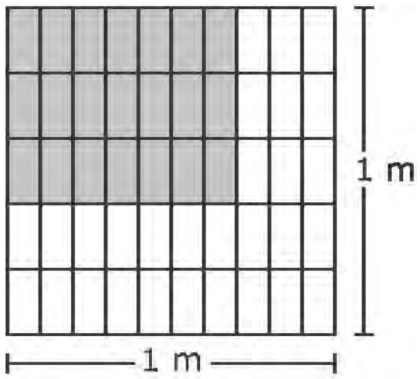
(25) Tara baked $6\frac{1}{2}$ dozen cookies. She sold $3\frac{2}{6}$ dozen of the cookies she made.

How many dozens of cookies does Tara have remaining?

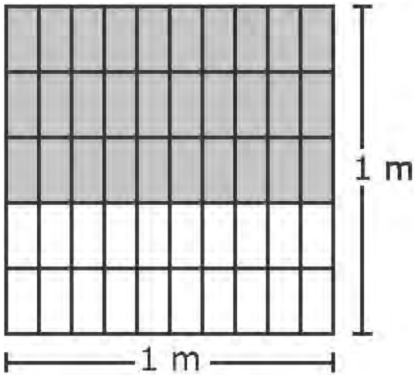
A. $3\frac{1}{6}$ B. $3\frac{1}{4}$ C. $3\frac{3}{8}$ D. $3\frac{5}{6}$

(26) Which model shows one way to determine the area of a rectangle that $\frac{7}{10}$ meter long and $\frac{3}{5}$ meter wide?

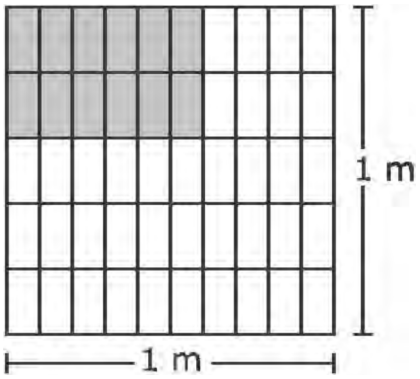
A.



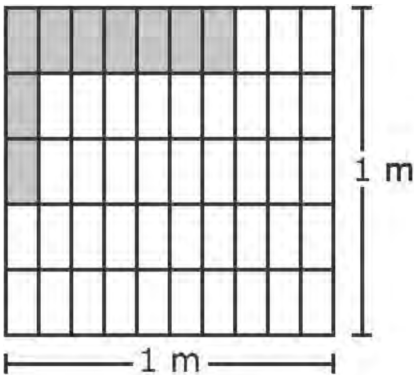
B.



C.



D.



(27) Which expression is equivalent to 32?

A. $(30 + 6) \div 3$

B. $2 \times (9 + 7)$

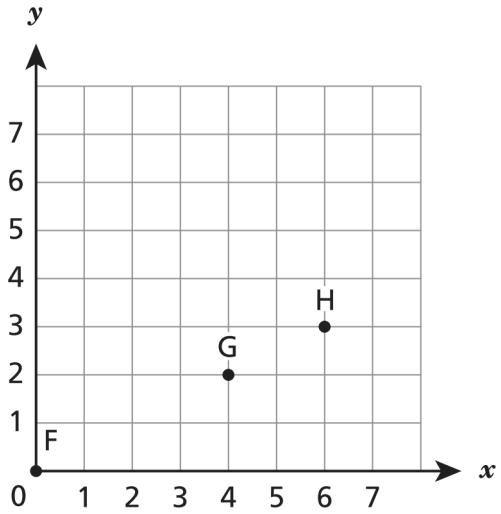
C. $9 \times (3 + 5)$

D. $6 + 2 \times 4$

(28) What is the value of the expression below?

$$[24 + 9 - (4 \times 2) + 11] \div 2$$

(29) Points F, G, and H are represented on the grid shown below.



Which statement is true for each of the points?

A. The x-coordinate is $\frac{1}{2}$ the y-coordinate.

B. The x-coordinate is 2 times the y-coordinate.

C. The x-coordinate is 2 more than the y-coordinate.

D. The x-coordinate is 3 more than the y-coordinate.

(30) Expressions *A*, *B*, and *C* are shown below.

A	*B*	*C*
$20^2 - 18^2$	$8(4^2) + 2^4$	$15^2 - 3^4$

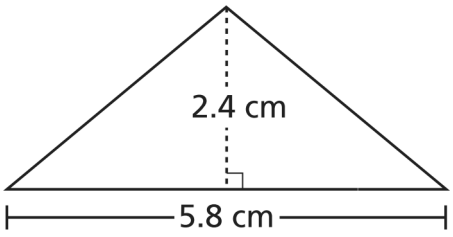
Which expression or expressions have the same value as 12^2?

(31) Paul bought a package of 6 spiral notebooks for a total cost of $13.50. Which equation represents p, the cost, in dollars, of each notebook?

A. $p = 13.50 - 6$ B. $p = 13.50 \times 6$

C. $p = 13.50 + 6$ D. $p = 13.50 \div 6$

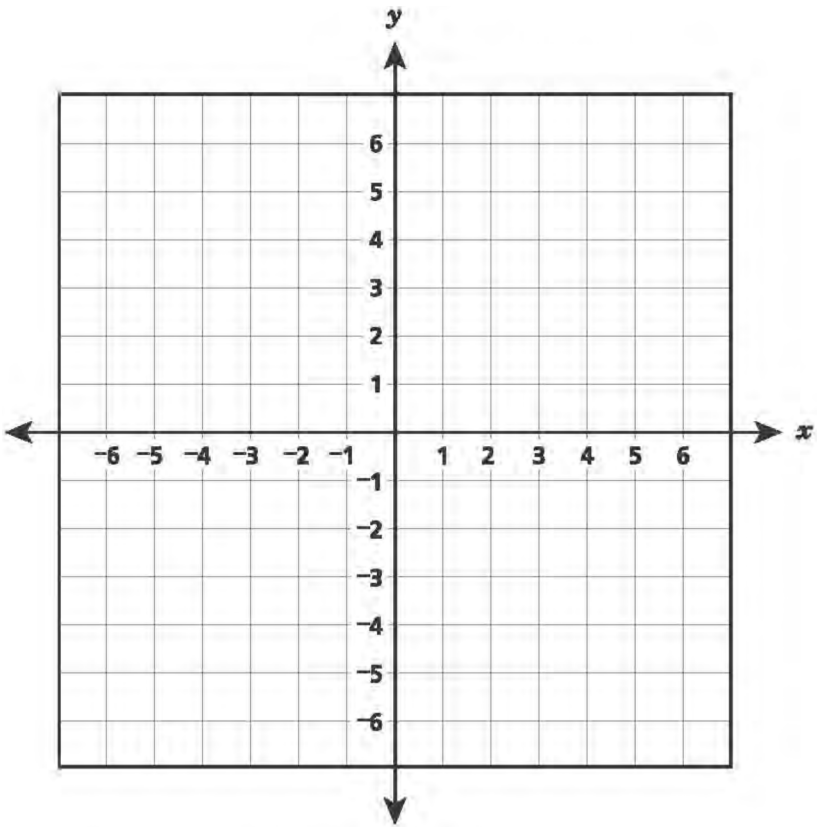
(32) What is the area, in square centimeters, of the figure below?



A. 6.96 B. 10.6

C. 13.92 D. 17.4

(33) The coordinate grid below represents a town. Curtis's house is at $(-4, -6)$ and Jean's house is at $(-4, 3)$. Plot the points where Curtis's house and Jean's house are located.



Each unit on the grid represents 1 mile. If Curtis can ride his bike at a constant rate of 12 miles per hour, how many minutes would it take Curtis to ride from his house to Jean's house?

(34) Jason will use a $\frac{1}{3}$-gallon pitcher to fill an empty $\frac{3}{4}$-gallon water jug. How much water will he need in order to completely fill the water jug?

A. between 1 and 2 full pitchers

B. between 2 and 3 full pitchers

C. about $\frac{1}{2}$ of a full pitcher

D. about $\frac{1}{4}$ of a full pitcher

(35) Machines S and T were both cleaned this week.

- Machine S is cleaned every 12 weeks.
- Machine T is cleaned every 8 weeks.

What is the *fewest* number of weeks that will pass before both machines are cleaned again in the same week?

A. 16 B. 24 C. 36 D. 48

(36) The table below shows how much money a grocery store receives for selling different amounts of asparagus.

ASPARAGUS SALES

Number of Pounds	Total Sales
4	$10
6	$15
8	$20
10	?
12	?

If the unit rate is constant, what are the total sales for 12 pounds of asparagus?

A. $22.50 B. $25.00

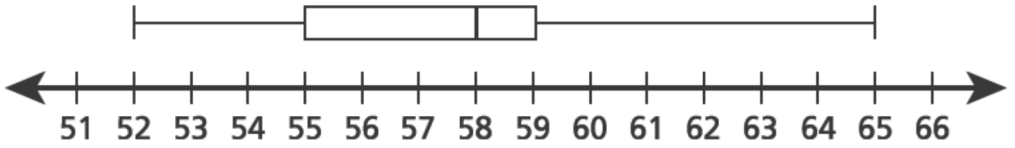
C. $30.00 D. $32.50

(37) Amanda surveyed 13 students in her class about their heights in inches. Her data are listed below.

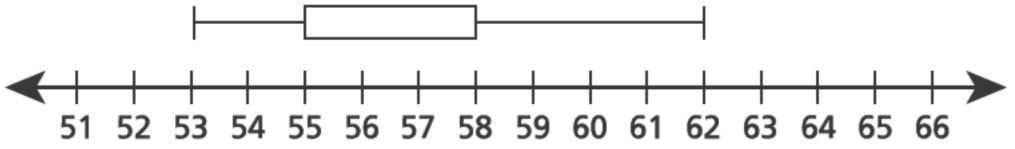
52, 53, 55, 55, 56, 57, 58, 58, 59, 59, 59, 62, 65

Which box plot correctly displays her data?

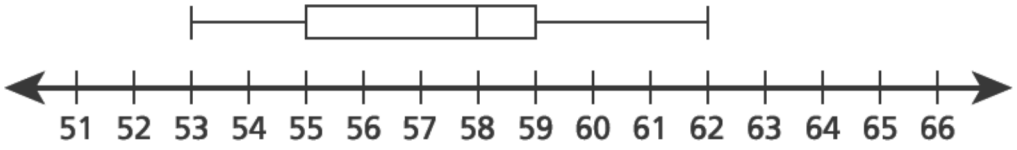
A.



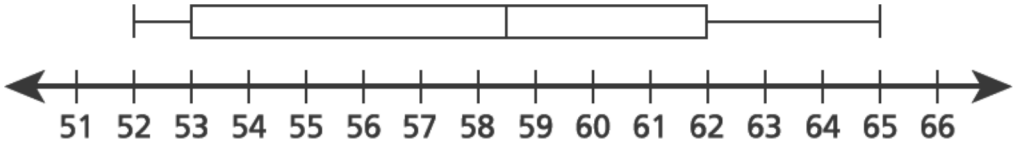
B.



C.



D.



(38) Salid bought 35 feet of window trim at a hardware store. The trim cost $1.75 per foot, including sales tax. If Salid paid with a $100.00 bill, how much change should he have received?

A. $20.00 B. $38.75

C. $61.25 D. $80.00

(39) At a store, a hat has a regular price of x dollars. During a sale, the price of the hat is discounted by 20%. The expression $0.8x$ describes the discounted price, in dollars, of the hat. Which expression also describes the discounted price, in dollars, of the hat?

A. $0.2x$ B. $x - 20$

C. $x - 0.2$ D. $x - 0.2x$

(40) Patel bought a model rocket kit from a catalog. The price of the kit was $124.95. The state sales tax of 7% was added, and then a $10 charge for shipping was added after the sales tax. What was the total amount Patel paid, including tax and shipping cost?

Patel received an allowance of $15 per week. How many weeks will it take him to purchase the kit?

(41) Which expression is equivalent to the expression shown below?

$$-\tfrac{1}{2}\left(-\tfrac{3}{2}x + 6x + 1\right) - 3x$$

A. $\frac{3}{2}x - \frac{1}{2}$ B. $6\frac{3}{4}x - \frac{1}{2}$

C. $-\frac{3}{4}x + \frac{1}{2}$ D. $-5\frac{1}{4}x - \frac{1}{2}$

(42) The circumference of a circle is 11π inches.

What is the area, in square inches, of the circle? Express your answer in terms of π.

(43) The initial balance of a savings account was $275. After which transactions will the balance of the savings account be the same as the initial balance?

A. a withdrawal of $232 followed by a deposit of $132

B. a deposit of $278 followed by a withdrawal of $278

C. a withdrawal of $115 followed by a deposit of $312

D. a deposit of $205 followed by a withdrawal of $317

(44) The Lions won 16 games last year. This year the Lions won 20 games. What is the percent increase in the number of games the Lions won from last year to this year?

A. 20% B. 25%

C. 80% D. 125%

(45) A store purchased a DVD for $12.00 and sold it to a customer for 50% more than the purchase price. The customer was charged a 7% tax when the DVD was sold. What was the customer's total cost for the DVD?

A. $12.84 B. $18.42

C. $18.84 D. $19.26

(46) A school principal wants to determine which type of speaker the students prefer to invite to an assembly for the entire student population. Which survey method would produce the *best* representative sample?

A. survey every fifth person who shops at a mall

B. survey all of the students on the student council

C. survey every tenth student entering the school one morning

D. survey all of the students who went to the last basketball game

(47) The table shown below was posted on the wall at Andy's Hardware to show the price of varying lengths of chain-link fencing.

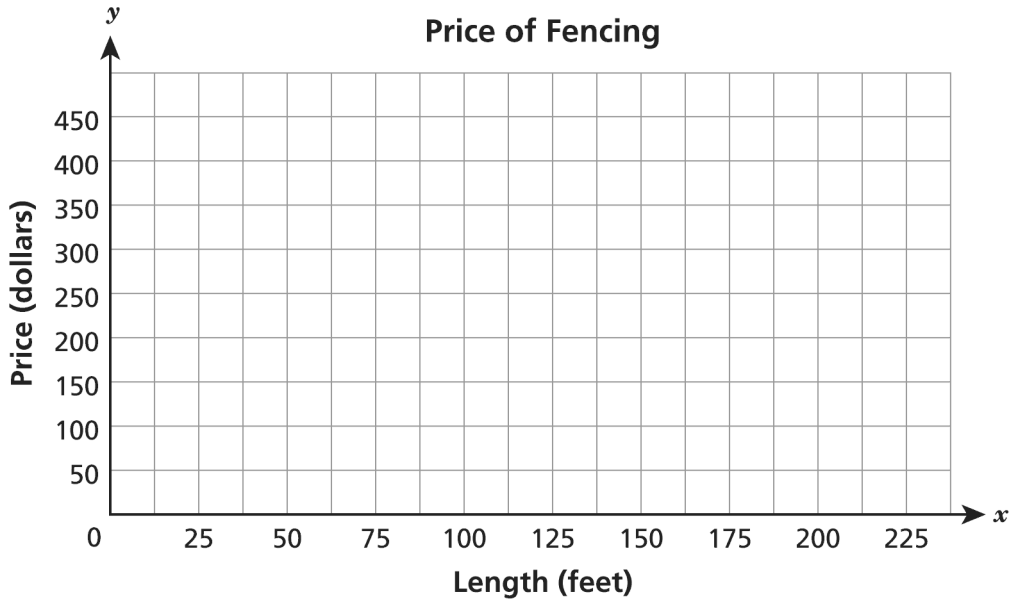
PRICE OF FENCING

Length (feet)	Price
75	$168.75
125	$281.25
175	$393.75
225	$506.25

The price of the same fencing at Bargain Hardware can be determined by the equation $y = 2.50x$, where y is the price, in dollars, for x feet of fencing.

Determine the unit price for fencing, in dollars per foot, for each store.

On the grid below, graph for each store the relationship between the length of the fencing and the price to verify your answers. Be sure to label each line.



(48) The mass of a dust particle is approximately 7.5×10^{-10} kilograms and the mass of an electron is 9.1×10^{-31} kilograms. Approximately how many electrons have the same mass as one dust particle?

A. 1.21×10^{20}

B. 1.21×10^{21}

C. 8.24×10^{20}

D. 8.24×10^{21}

(49) A system of equations is shown below.

$$5x + 3y = -6$$
$$2x + y = -4$$

Which statement about the ordered pair $(-6, 8)$ is true?

A. It is the only solution to the system.

B. It is not a solution to either equation.

C. It is one of many solutions to the system.

D. It is a solution to the first but not the second equation.

(50) Function W and Z are both linear functions of x.

Function W

$$y = -\frac{1}{16}x + 30$$

Function Z

x	0	1	2	4
y	15.8	15.76	15.72	15.68

Which statement comparing the functions is true?

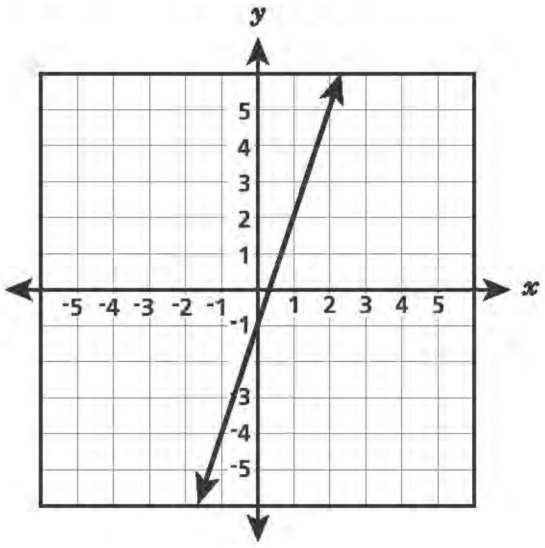
A. The slope of Function W is equal to the slope of Function Z.

B. The slope of Function W is less than the slope of Function Z.

C. The y-intercept of Function W is equal to the y-intercept of Function Z.

D. The y-intercept of Function W is less than the y-intercept of Function Z.

(51) Function J is shown on the coordinate grid below.

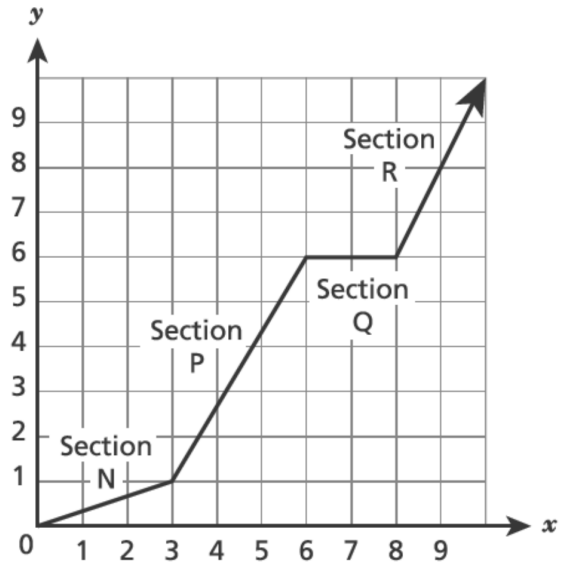


If the y-intercept of Function R is $\frac{3}{2}$ greater than the y-intercept of Function J, which equation could represent Function R?

A. $y = -x + 4.5$ B. $y = 0.5x + 3$

C. $y = 3x + 0.5$ D. $y = 4.5x - 1$

(52) The graph of a function is shown below.



Which statement is *true* about a section of the graph?

A. In Section N, the function is linear and decreasing.

B. In Section P, the function is linear and increasing.

C. In Section Q, the function is nonlinear and decreasing.

D. In Section R, the function is nonlinear and increasing.

(53) On a coordinate plane, vertex A for triangle ABC is located at $(6, 4)$. Triangle ABC is dilated by a scale factor of 0.5 with the center of dilation at the origin. The resulting image is triangle $A'B'C'$. What are the coordinates of vertex A'?

A. $(3, 2)$ B. $(12, 8)$

C. $(5.5, 3.5)$ D. $(6.5, 4.5)$

(54) Square *ABCD* is located on a coordinate plane. The coordinates for three of the vertices are listed below.

- $A(2, 7)$
- $C(8, 1)$
- $D(2, 1)$

Square *ABCD* is dilated by a scale factor of 2 with the center of dilation at the origin, to form square $A'B'C'D'$. What are the coordinates of *vertex B′*?

Explain how you determined your answer.

(55) Annette plans to visit an amusement park where she must pay for admission and purchase tickets to go on the rides. Annette wants to find the total cost for a day at the amusement park. She wrote the equation $c = 1.50x + 12$ to predict c, the total cost for a day at the amusement park. What could the number 12 represent in Annette's equation?

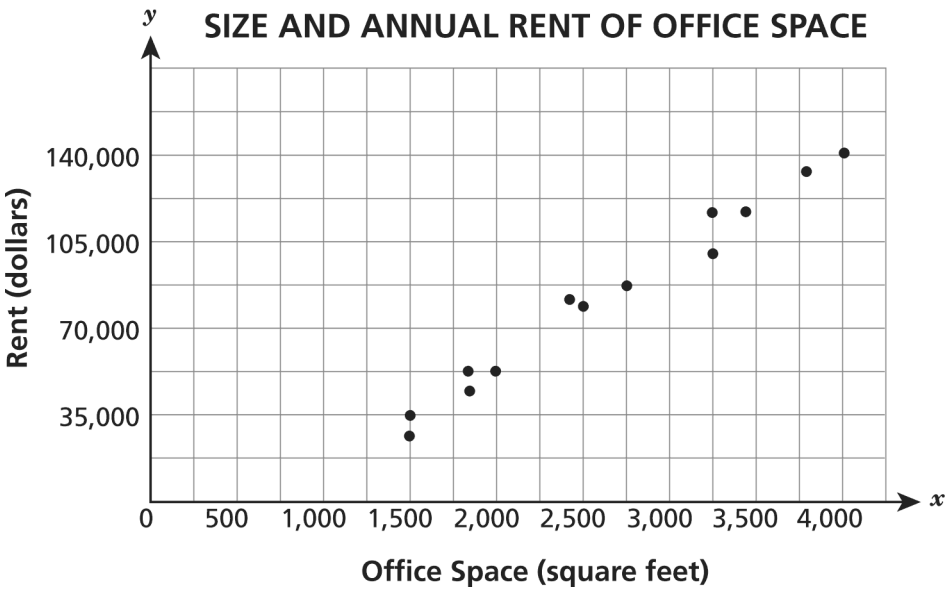
A. the number of rides

B. the cost of admission

C. the cost of each ticket

D. the number of tickets

(56) The scatter plot shows the sizes and annual rents of some office spaces in the downtown area of a city.



What would the line of best fit reveal about these data?

A. There is a strong negative relationship between the cost of rent and the size of the office space.

B. There is a strong positive relationship between the cost of rent and the size of the office space.

C. There is a weak positive relationship between the cost of rent and the size of the office space.

D. There is a weak negative relationship between the cost of rent and the size of the office space.