1. Which option shows 4500000 in scientific notation?

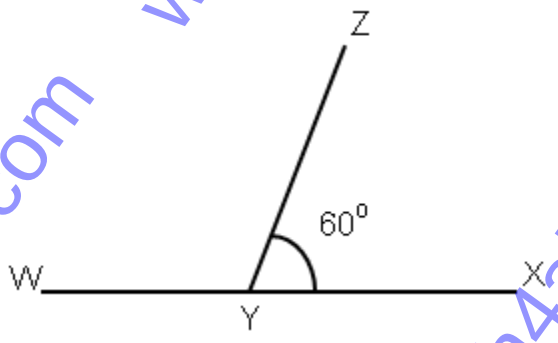
(a) 4.5×10^7

(b) 45×10^6

(c) 0.45×10^6

(d) 4.5×10^6

2. Angle XYZ and angle WYZ are Supplementary Angles. Angle XYZ is 60°. Find the value of angle WYZ.



(a) 40°

(b) 30°

(c) 120°

(d) 140°

3. Amy ran for 9/4 miles on Monday, 13/5 miles on Tuesday and 3/2 miles on Wednesday. How many miles did she run in three days?.

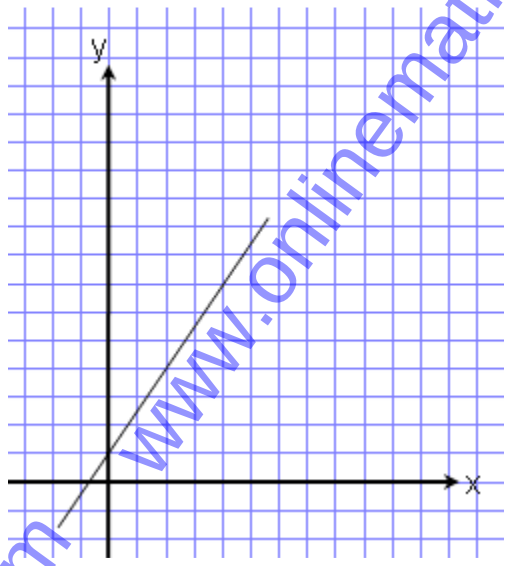
(a) 127/20

(b) 63/10

(c) 26/5

(d) 109/20

4. What is the slope of line shown in the graph?



(a) 3

(c) 1.5

(b) 2

(d) 4

5. Write the following expression as an algebraic expression. The square of a number ***n***, increased by 9.

(a) n2 + 9

(c) $n^2 + 9$

(b) $2^n + 9$

(d) $n^9 + 2$

6. Which property of multiplication is shown here?
$5\times(40 + 3) = 5\times(40) + 5\times(3)$

(a) Identity

(c) Distributive

(b) Zero

(d) Associative

7. Regular price of a vase was $80. After receiving a discount, Marty paid $56 for that vase. How much discount did he get?

(a) 60%

(c) 30%

(b) 50%

(d) 25%

8. Solve the following equation for x. $2x - 16 = 2$

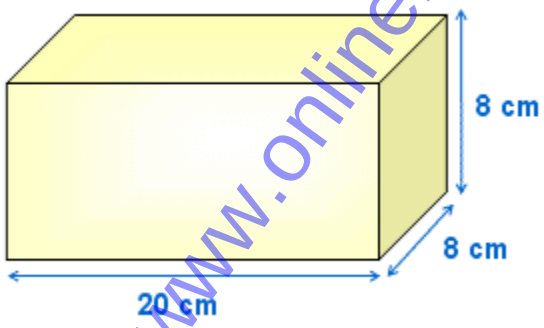
(a) $x = 18$

(c) $x = 20$

(b) $x = 8$

(d) $x = 9$

9. An ice-cream slab, as shown in picture, was divided equally among 5 kids. Calculate the volume of the ice-cream each kid received.



(a) 320 cm^3

(b) 256 cm^3

(c) 1280 cm^3

(d) 640 cm^3

10. Larry invested $12,000 in an account at 5.5% annual simple interest, how long will it take his account balance to grow to $13,320?

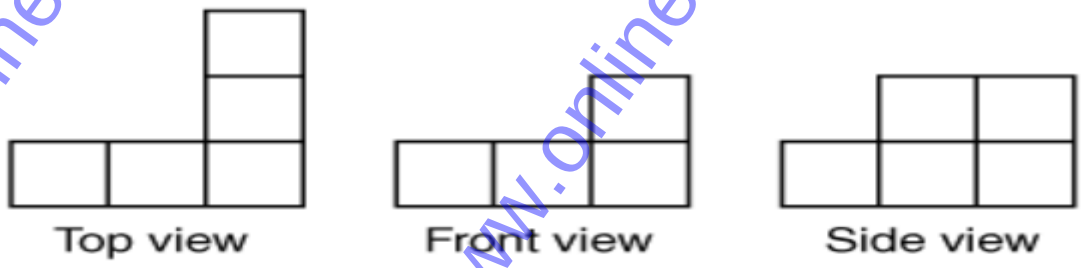
(a) 3 years

(b) 2 years

(c) 20 months

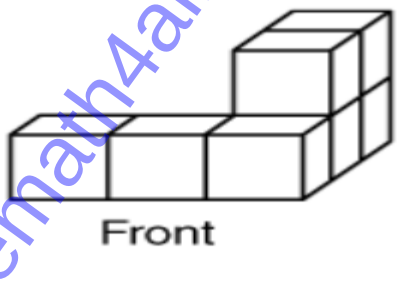
(d) 15 months

11. The top, front, and side views of a 3-dimensional figure built with identical cubes are shown below.

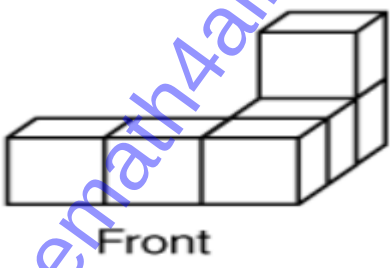


Which 3-dimensional figure do these views best represent?

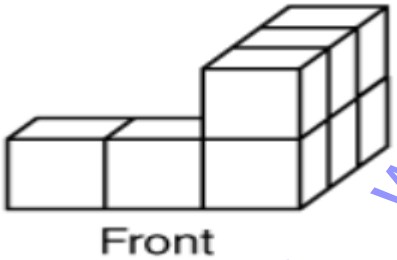
(a)



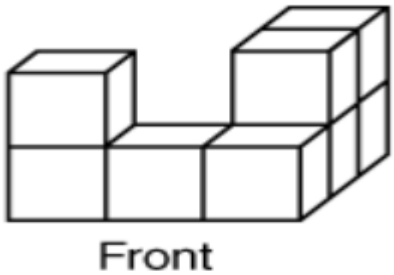
(c)



(b)



(d)



12. Mike got a 45% discount when he bought a new jacket. Which of the following is NOT equivalent to 45%?

(a) 9/20

(c) 0.45

(b) 4/5

(d) 45/100

13. Three students compared the number of hours they each studied for a test.

- The number of hours that Mary studied was 2 less than the number of hours that Jackie studied.
- The number of hours that Jackie studied was 4 more than the number of hours that Veronica studied.
- Veronica studied 3 hours.

Based on this information, which statement is true?

(a) Jackie studied 1 hour, because $4 - 3 = 1$.

(b) Mary studied 5 hours, because $3 + 4 = 7$ and $7 - 2 = 5$.

(b) Veronica studied 2 hours more than Mary, because $4 - 2 = 2$.

(d) Jackie, Mary, and Veronica studied a total of 9 hours, because $2 + 4 + 3 = 9$.

14. Ming has a plastic container that is shaped like a rectangular prism. The container has a length of 14 centimeters and a width of 6 centimeters. If the volume of the container is 840 cubic centimeters, what is its height?

(a) 10 cm

(c) 14 cm

(b) 42 cm

(d) 168 cm

15. The table below shows the number of minutes Steve used his cell phone each month during a 4-month period.

Steve's Cell Phone

Month	Number of Minutes
January	306
February	302
March	302
April	305

Steve pays a monthly fee of $40 for a 300-minute plan plus $0.40 for each minute over 300. What was the total amount Steve paid for these 4 months, not including tax?

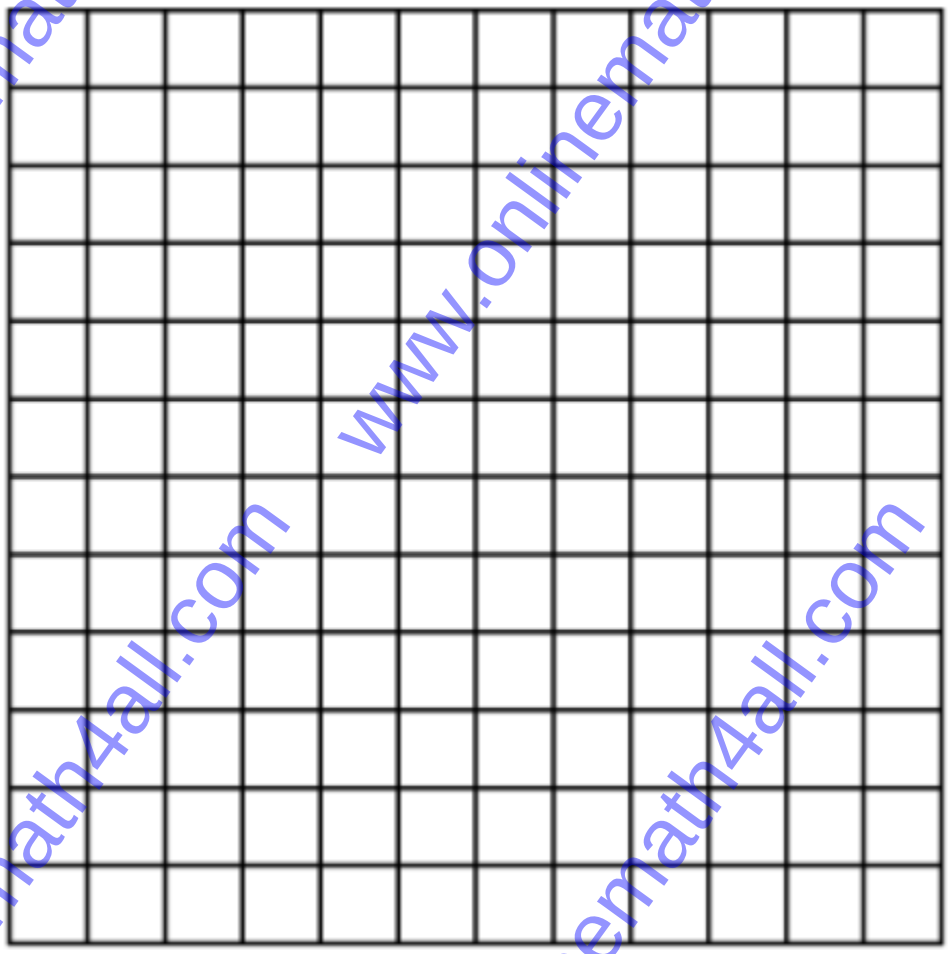
(a) $220

(c) $126

(b) $166

(d) $154

16. The model below is a square with an area of 144 square units.



Which of these equations can be used to determine s, the side length of this model in units?

(a) $s=\sqrt{144}$

(c) $s=144$

(b) $s=12^{12}$

(d) $s=\sqrt{24}$

17. Karen is k years old. Raul's age, r, is 6 more than 2 times Karen's age. Which of the following equations best represents this situation?

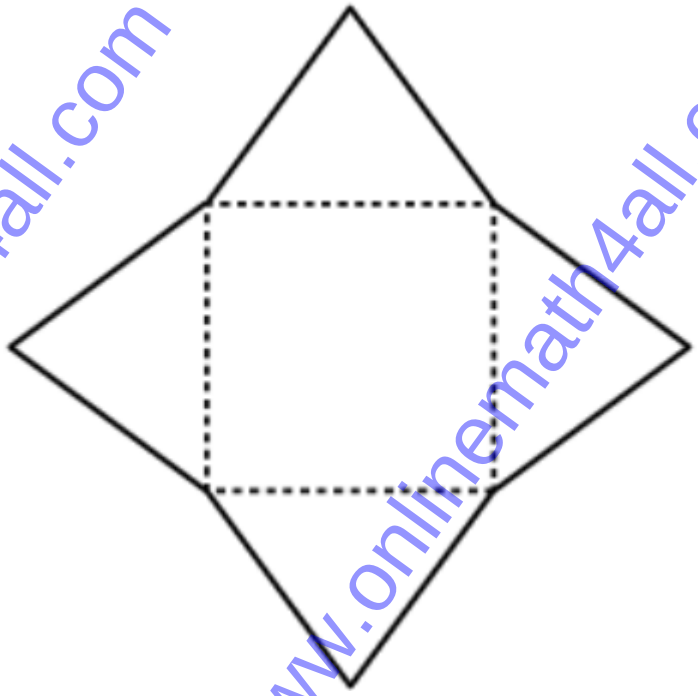
(a) $r = (6 + 2)k$

(b) $k = 2r + 6$

(c) $r = 2k + 6$

(d) $k = (6 + 2)r$

18. Lily folded the net below along the dashed line segments.



Which of the following best describes the shape of the folded object?

(a) Square prism

(b) Square pyramid

(c) Triangular prism

(d) Triangular pyramid

19. Samantha is using a wooden strip $\frac{7}{8}$ yard long to make a picture frame. If she cuts off a piece that is $\frac{3}{4}$ yard long, which fraction best represents the portion that is left of the original strip?

(a) (13/8) yd

(b) 1 yd

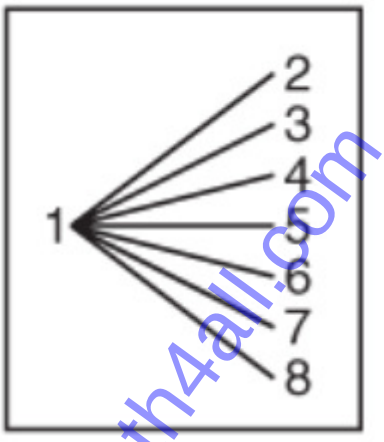
(c) (1/4) yd

(d) (1/8) yd

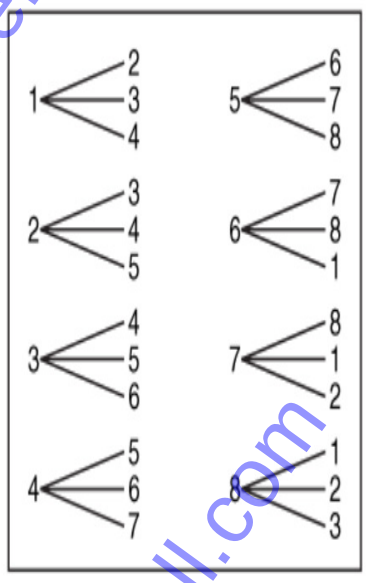
20. There are 8 girls in a dance class. The girls are represented in the diagrams below by the numbers 1 through 8. If each girl needs a dance partner, which list shows all the possible combinations of girls in the dance class?

(a)

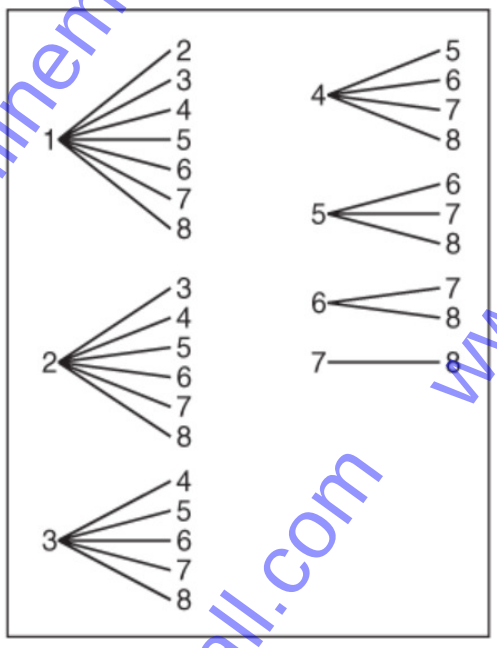
(c)



(b)



(d)



21. Ernest bought one of each of the following food items at the grocery store.

Ernest's Groceries

Item	Price
Milk	$2.00
Chips	$2.50
Bread	$0.80
Cheese	$3.50
Ham	$5.50

If Ernest was charged $16.80, for which item did the cashier accidentally charge him twice?

(a) Milk

(b) Bread

(c) Chips

(d) Cheese

22. Which list of integers is in order from least to greatest?

(a) -42, -39, -4, 40, 41

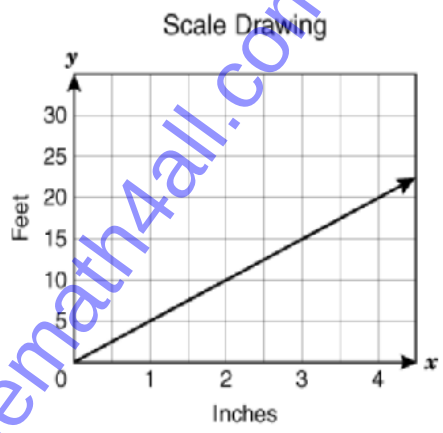
(b) -42, 41, 40, -39, -4

(c) -4, -39, 40, 41, -42

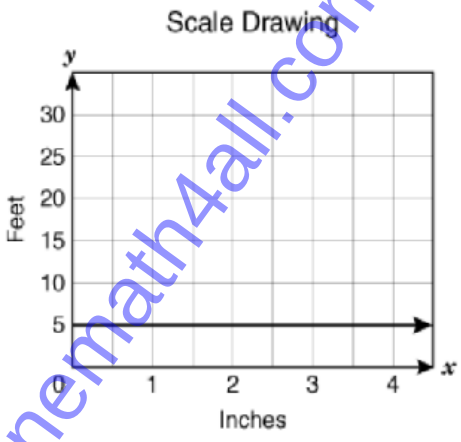
(d) 41, 40, -4, -39, -42

23. Oscar made a scale drawing of his backyard. In his drawing, $\frac{1}{2}$ inch represents 5 feet. Which graph best represents this relationship?

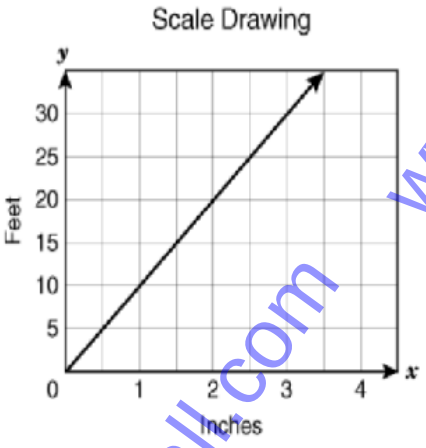
(a)



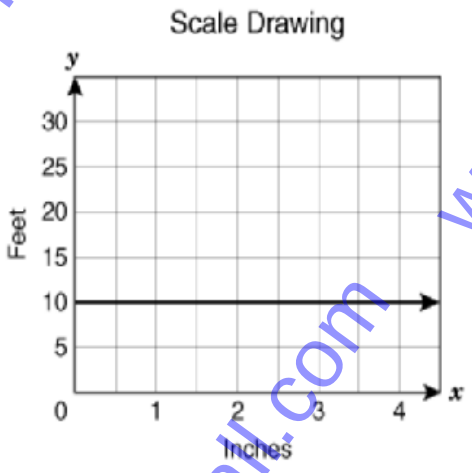
(c)



(b)



(d)



24. Marilyn was studying the effects of tripling the dimensions of 4 rectangles. The table below shows these effects.

Area of Rectangles

Original Area (square centimeters)	New Area (square centimeters)
4	36
36	324
324	2,916
2,916	26,244

Based on the information in the table, which statement is true?

(a) Tripling the dimensions of any rectangle increases its area by a factor of 12.

(b) Tripling the dimensions of any rectangle increases its area by a factor of 3.

(b) Tripling the dimensions of any rectangle increases its area by a factor of 6.

(d) Tripling the dimensions of any rectangle increases its area by a factor of 9.

25. Laura looked at several different flower arrangements before purchasing one. The arrangements varied in price from $15.62 to $37.50. Which measure of data can be used to describe the variation in price of the different arrangements?

(a) Mean

(c) Range

(b) Mode

(d) Median

26. Which rule can be used to find the value of the *n*th term in the sequence below, where *n* represents the position of the term?

Position	Value of Term
1	$\frac{3}{4}$
2	$1\frac{1}{2}$
3	$2\frac{1}{4}$
4	3
5	$3\frac{3}{4}$
n	

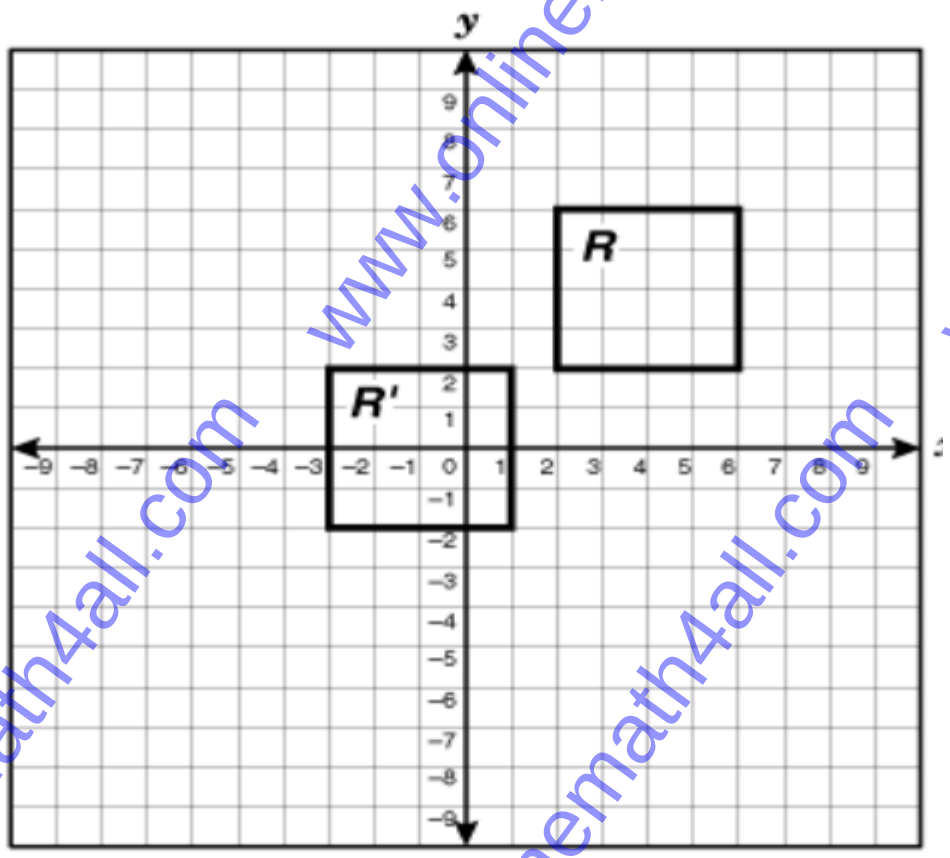
(a) (n+2)/4

(c) (2n+5)/4

(b) (n+1)/2

(d) 3n/4

27. The vertices of square R were translated to form the vertices of square R'.



Which of the following best describes the translation?

(a) 4 units left and 5 units down

(b) 5 units left and 4 units down

(c) 5 units right and 4 units up

(d) 4 units right and 5 units up

28. Gina purchased 3 paintbrushes for $18.87, not including tax. If each paintbrush cost the same amount, what was the cost in dollars and cents for each paintbrush, not including tax?

(a) 6.29

(b) 7.02

(c) 6.85

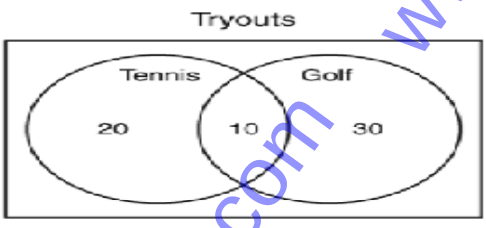
(d) 7.36

29. A coach conducted a survey to determine how many students plan to try out for tennis and golf. The results of the survey are shown below.

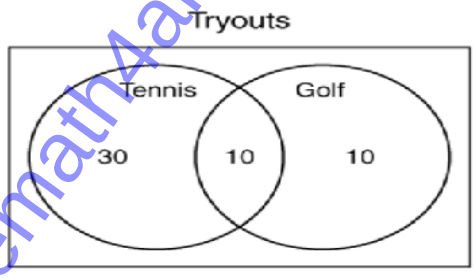
(i) A total of 20 students plan to try out for tennis.
(ii) A total of 40 students plan to try out for golf.
(iii) 10 students plan to try out for both tennis and golf.

Which Venn diagram best represents this information?

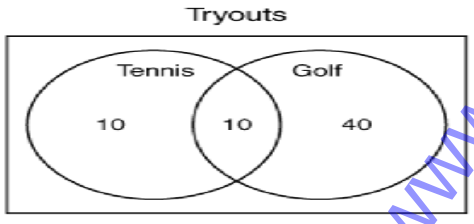
(a)



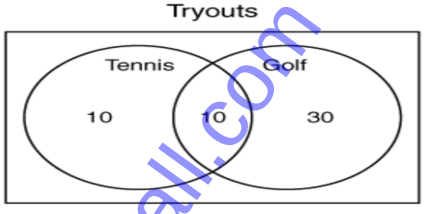
(b)



(c)



(d)



30. It takes 90 minutes to wash 20 vehicles at a car wash. At this rate, how many minutes does it take to wash 5 vehicles?

(a) 22 min

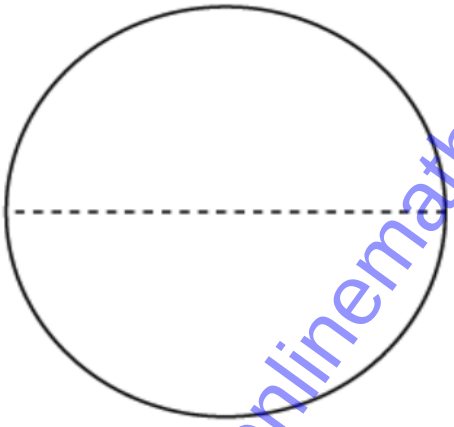
(c) 45/2 min

(b) 14 min

(d) 15/2 min

31. Jared designed buttons for his student-council campaign. The figure below shows the size of each campaign button. Use the ruler on the Mathematics Chart to measure the diameter of the button to the nearest quarter of an inch.

Jared's Campaign Button



Which is closest to the circumference of the button that Jared designed?

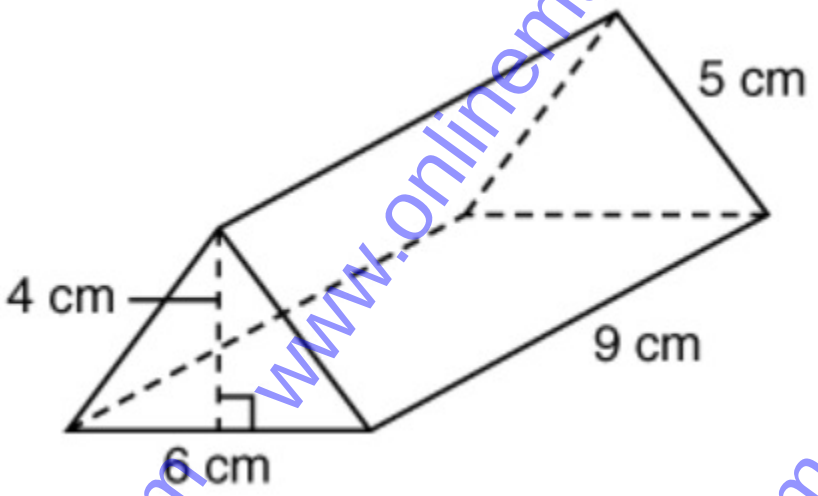
(a) 15.7 in.

(c) 7.8 in.

(b) 6.28 in.

(d) 3.14 in.

32. A company developed a box in the shape of a triangular prism, as shown below.



A formula for the volume of a triangular prism is $V = Bh$. Which expression can be used to find B, the area of the base of this prism in square centimeters?

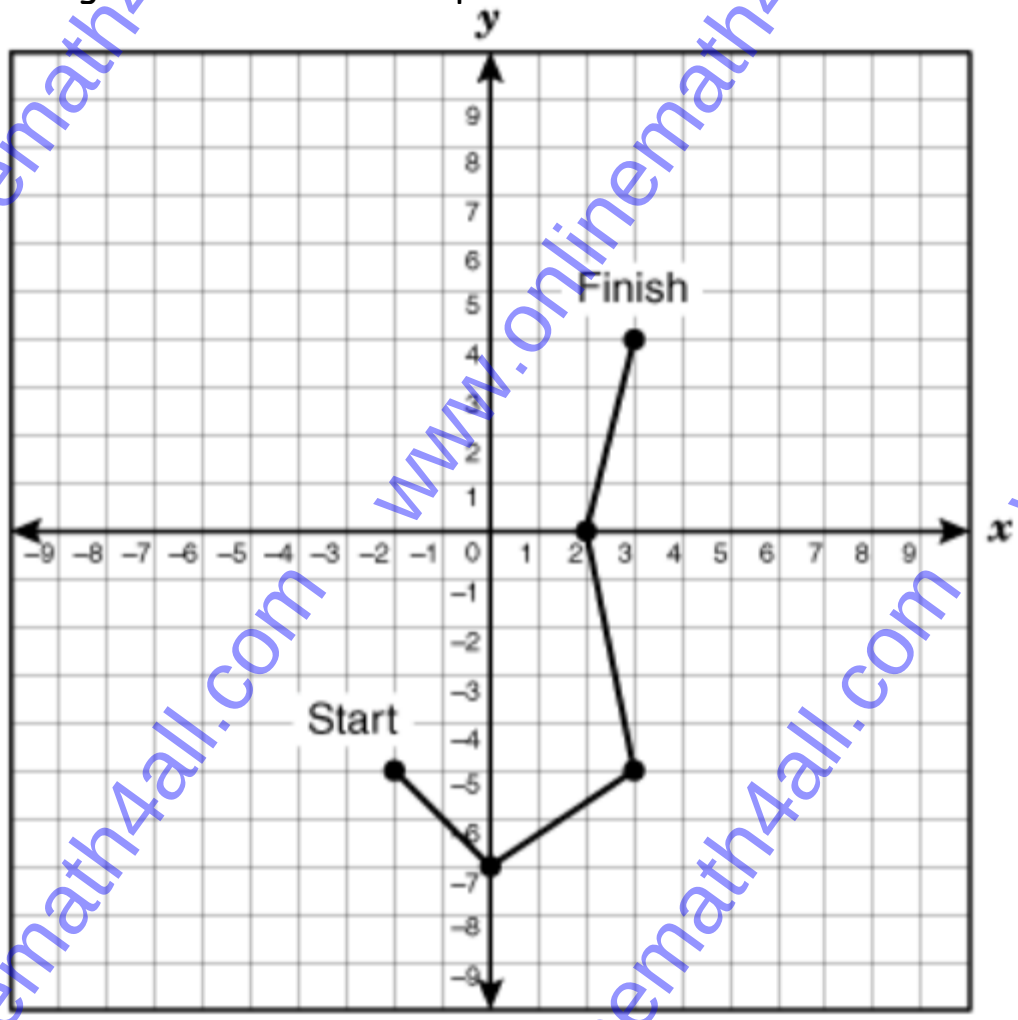
(a) (6)(5)/2

(c) (6)(4)/2

(b) (6)(4)(9)

(d) (6)(5)(9)

33. The grid below shows the path of a bike trail.



Which of the following best represents a point that lies on the bike trail?

(a) (2, -5)

(b) (-5, -3)

(c) (4, 3)

(d) (2,0)

34. Which of the following can be used to find y, the number of yards in 4 miles?

(a) y=1760/4

(c) y=4.5280

(b) y=4.1760

(d) y=5280

35. What is the value of the expression given below?

$$5 + 5(9 \div 3)^2$$

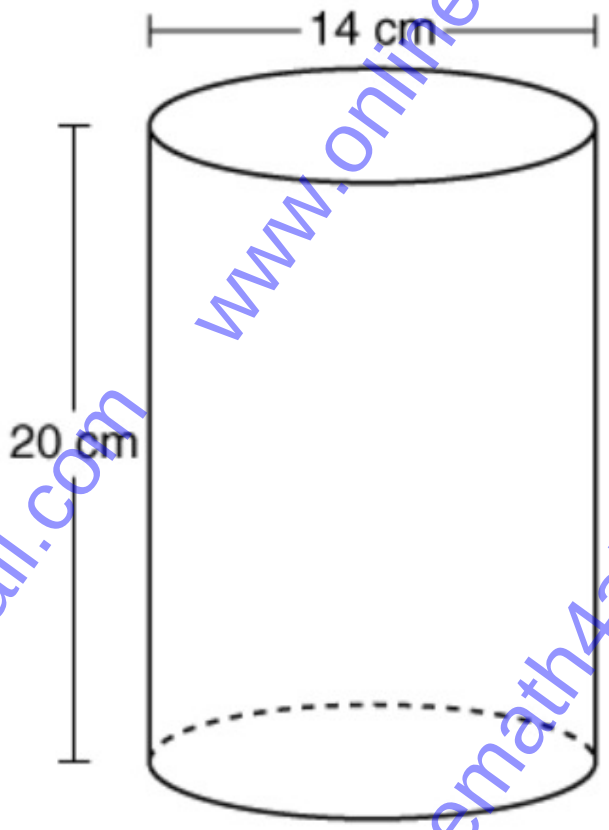
(a) 35

(c) 50

(b) 90

(d) 230

36. Justin uses a container in the shape of a cylinder to store his markers. The diagram below shows the dimensions of the container.



Which of the following is closest to the volume of the container?

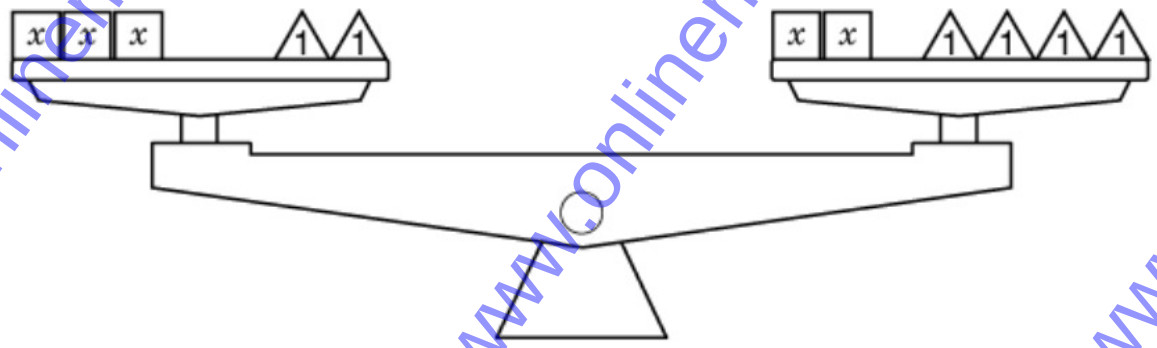
(a) 3,077 cm^3

(b) 1,758 cm^3

(c) 879 cm^3

(d) 440 cm^3

37. The model below represents the equation $3x + 2 = 2x + 4$.



What is the value of x?

(a) $x = 5$

(b) $x = 1$

(c) $x = 6$

(d) $x = 2$

38. Jeff drew a circle inside a square, as shown below.

Which method can Jeff use to find the area of the square not covered by the circle?

(a) Subtract the area of the circle from the area of the square

(b) Subtract the area of the square from the area of the circle

(c) Subtract $\frac{1}{4}$ the area of the square from the area of the circle

(d) Subtract $\frac{1}{4}$ the area of the circle from the area of the square

39. Melissa bought lunch for herself and 2 friends. The cost for each lunch was between $3.95 and $4.80, including tax. Which of the following could be the total cost of the lunches that Melissa bought?

(a) $9

(b) $13

(c) $18

(d) $26

40. A soccer league has 64 teams competing in a tournament. In each round, pairs of teams compete. The team that wins advances to the next round. The table below shows the results of the first 2 rounds.

Soccer League Tournament

Round	Number of Teams Competing	Number of Teams Remaining
1	64	32
2	32	16

At the end of which round will there be only 2 teams remaining, assuming there are no ties?

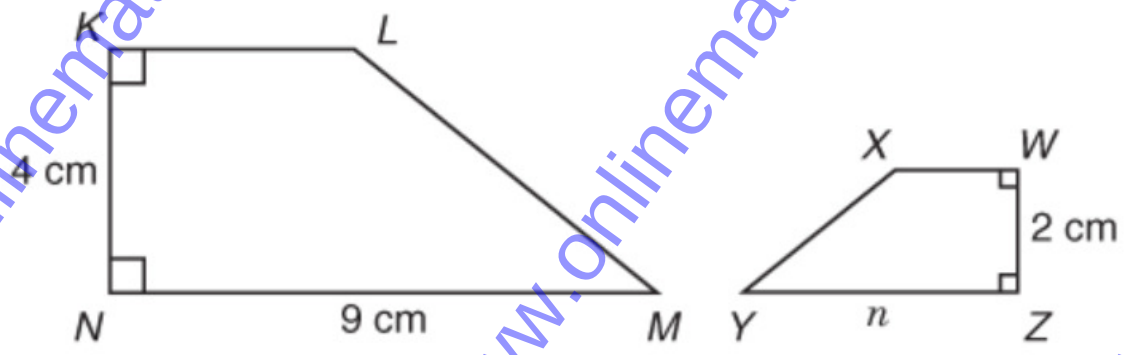
(a) Round 4

(b) Round 5

(c) Round 6

(d) Round 7

41. In the diagram below, figure *KLMN* is similar to figure *WXYZ*.



Which of the following proportions can be used to find the value of *n*?

(a) $\frac{4}{n} = \frac{2}{9}$

(b) $\frac{2}{n} = \frac{9}{4}$

(c) $\frac{13}{n} = \frac{2}{4}$

(d) $\frac{4}{2} = \frac{9}{n}$

42. Jake spent a total of $20 on the items below.

- 2 movie tickets for $6 each
- 1 bag of popcorn for $3.50
- 2 drinks for $2.25 each

What percent of the $20 did Jake spend on movie tickets?

(a) 40%

(b) 12%

(c) 60%

(d) 8%

43. Zariah's bicycle wheel can travel about 6.5 feet per revolution. Which statement is best supported by this information?

(a) The wheel can travel about 120.5 feet in 60 revolutions.

(b) The wheel can travel about 33.5 feet in 40 revolutions.

(c) The wheel can travel about 30.5 feet in 6 revolutions.

(d) The wheel can travel about 97.5 feet in 15 revolutions.

44. The price of gasoline at 4 different gas stations is shown in the table below.

Gasoline Prices

Gas Station	Amount of Gasoline (gallons)	Price
K	15	$36.00
L	10	$23.50
M	8	$20.00
N	20	$51.00

Which gas station charges the least amount per gallon of gasoline?

(a) Gas Station K

(b) Gas Station L

(c) Gas Station M

(d) Gas Station N

45. Lois drew an angle that measures 65°. What is the measure of an angle that is supplementary to the 65° angle?

(a) 25°

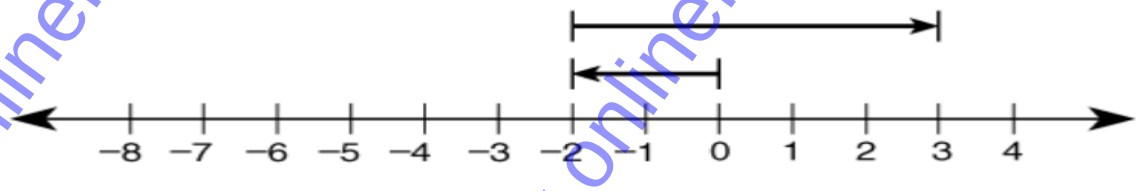
(b) 105°

(c) 115°

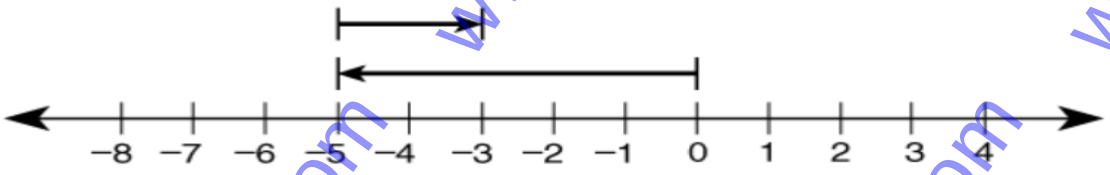
(d) 35°

46. Which model represents –5 + 2?

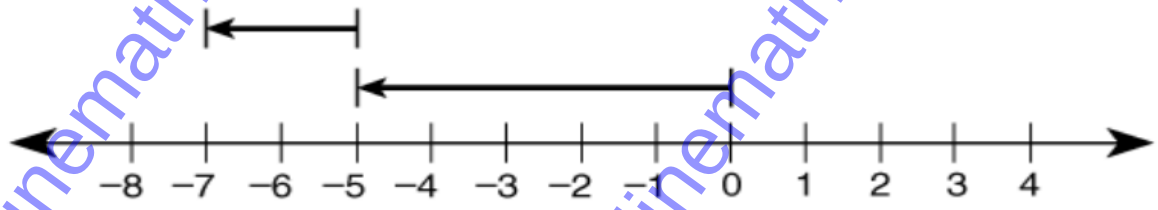
(a)



(b)



(c)



(d)

47. Mr. Ellis was trying to find a tablecloth for his rectangular dining table. He knew the area and perimeter of the tabletop.

- Area = 36 square feet
- Perimeter = 26 feet

Which best represents the width and length of the tabletop?

(a) W = 2ft,L = 18ft

(b) W = 3ft,L = 12ft

(c) W = 6ft,L = 6ft

(d) W = 4ft,L = 9ft

48. Given x+2y=6, x-y=0. Solve for "x" and "y".

(a) X=2, Y=2

(b) X=1, Y=1

(c) X=1, Y=-1

(d) X=1, Y=0

49. Neal was working on a crossword puzzle and needed to find a state that began with the letter *M*. The states he had to choose from and the number of letters in each state's name are shown below.

States That Begin with the Letter *M*

State	Number of Letters
Maine	5
Maryland	8
Massachusetts	13
Michigan	8
Minnesota	9
Montana	7
Mississippi	11
Missouri	8

Neal found the mean, median, mode, and range of the number of letters in each state's name. Which one of these measures is NOT equal to 8?

(a) Mean

(b) Median

(c) Mode

(d) Range

50. A box contains 14 candy bars of equal weight. The weight of the empty box is
10 ounces, and the total weight of the box and the candy bars is 80 ounces. Which method can be used to find the weight in ounces of each candy bar?

(a) Subtract 10 from 80 and then multiply the difference by 14

(b) Subtract 10 from 80 and then divide the difference by 14

(c) Subtract 14 from 80 and then multiply the difference by 10

(d) Subtract 14 from 80 and then divide the difference by 10

Answers:

1. d	2. c	3. a	4. b	5. c	6. c
7. b	8. d	9. b	10. b	11. a	12. b
13. b	14. a	15. b	16. a	17. c	18. b
19. d	20. d	21. c	22. a	23. b	24. d
25. c	26. d	27. b	28. a	29. d	30. c
31. b	32. c	33. d	34. b	35. c	36. a
37. d	38. a	39. b	40. b	41. d	42. c
43. d	44. b	45. c	46. b	47. d	48. a
49. a	50. b				