

Name: _____

Teacher: Taylor

1. Solve for x : $2x + 4 \leq 12$

- A. $x \leq 4$
- B. $x \leq 8$
- C. $x \geq 4$
- D. $x \geq 8$

2. A total of \$450 is divided into equal shares. If Kate receives four shares, Kevin receives three shares, and Anna receives the remaining two shares, how much money did Kevin receive?

- A. \$100
- B. \$150
- C. \$200
- D. \$250

3. Solve for x : $3.2x - 7.4 = -7.8x + 3.6$

- A. 1
- B. 0.8
- C. 3.8
- D. 0.5

Figure 1

The table shows the estimated populations of the seven continents.

Estimated Population (in thousands)			
Continent	1900	1950	2000
North America	106,000	221,000	481,000
South America	38,000	111,000	347,000
Europe	400,000	392,000	729,000
Asia	932,000	1,411,000	3,688,000
Africa	118,000	229,000	805,000
Australia	6,000	12,000	31,000
Antarctica	—	—	—

4. [Refer to figure 1]

From 1950 to 2000, what was the percent of increase in population in Asia? Round to the nearest percent.

Answer: %

5. Maria has a set of 10 index cards labeled with the digits 0 through 9. She puts them in a bag and selects one at random. The outcome that is most likely to occur is selecting
- an odd number
 - a prime number
 - a number that is at most 5
 - a number that is divisible by 3
6. Pablo wants to order 30 hamburgers for his birthday party. He found two advertisements for competing restaurants that gave him some prices for hamburgers. Unfortunately, the price for 30 hamburgers was not listed. So, Pablo made the tables below to help figure out which store he should buy from.

Handy Burger

Burgers	Cost
3	
6	
9	
12	\$72
15	
18	
21	
24	\$144
27	
30	

Patty's Patties

Burgers	Cost
5	\$25
10	\$50
15	
20	\$100
25	
30	

Which restaurant will give Pablo the best price for 30 hamburgers and how much will he have to spend?

- Handy Burger, \$150
 - Handy Burger, \$180
 - Patty's Patties, \$150
 - Patty's Patties, \$110
7. A boat travels 32 miles on 4 gallons of fuel. How many miles per *half gallon* is that?
- Answer: miles per half gallon
8. Lina bought a twenty-ounce bag of Yummios for \$2.39. What is the price per ounce, rounded to the nearest cent?
- Answer: \$ per ounce

9. Which inequality represents the translation of the following sentence?

"The quotient of a number and 5 is less than or equal to that number increased by 1."

- A. $5x < x + 1$
 - B. $\frac{x}{5} \leq x + 1$
 - C. $\frac{x}{5} \geq x + 1$
 - D. $\frac{x}{5} > x + 1$
-

Figure 2

A special deck of playing cards consists only of the following nine cards:

Jack of Hearts	Queen of Hearts	King of Hearts
Jack of Clubs	Queen of Clubs	King of Clubs
Jack of Diamonds	Queen of Diamonds	King of Diamonds

10. [Refer to figure 2]

If the deck is shuffled and a player is dealt two cards, what is the probability that both cards are hearts?

- A. $\frac{1}{2}$
- B. $\frac{2}{3}$
- C. $\frac{1}{9}$
- D. $\frac{1}{12}$

11. Salma rolls a standard 6-sided number cube once, and then she rolls it a second time. What is the probability that Salma rolls a six both times? Express your answer as a fraction in simplest form.

Answer: $\frac{\text{}{\text{}}$

12. Find x :

$$-4x - 8 = -16$$

$$x = \text{}$$

13. Juan has a cellular phone that costs \$12.95 per month plus 25¢ per minute for each call. Tiffany has a cellular phone that costs \$14.95 per month plus 15¢ per minute for each call. For what number of minutes do the two plans cost the same?

Answer: minutes

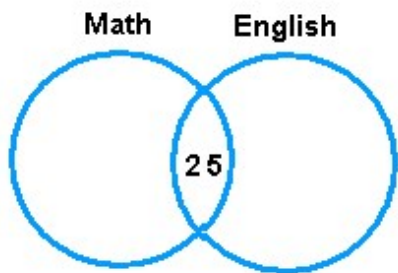
14. Planning for a party, Carla mixed $\frac{3}{4}$ liters of lemon concentrate with $2\frac{1}{4}$ liters of water to make 3 liters of lemonade.

- The party ran out of lemonade.
- To make a new batch of lemonade, Carla used exactly 4 liters of water.

How many liters of lemon concentrate should Carla use to make the new batch of lemonade have the same ratio as the first batch?

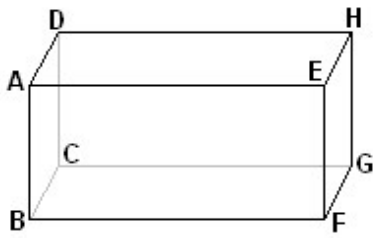
Carla should use liters of lemon concentrate to make the new batch of lemonade.

15. There are 204 students in the senior class at Valley High School. 100 of them take math, 110 take English, and 25 take both. How many students do *not* take either math *or* English?



- A. 19
- B. 15
- C. 24
- D. 10

16. The diagram shows a rectangular solid.



Which of the following statements must be true?

- A. $\overline{CG} \cong \overline{EH}$
B. $\overline{DH} \parallel \overline{BF}$
C. $\overline{GF} \cong \overline{EF}$
D. $\overline{FG} \perp \overline{EH}$
17. Calvin is playing a game with a standard 6-sided number cube. He rolls the cube twice. What is the probability that *both* times an odd number comes up? Express your answer as a fraction in simplest form.

Answer:

18. The ninth grade class at a local high school needs to purchase a park permit for \$250.00 for their upcoming class picnic. Each ninth grader attending the picnic pays \$0.75. Each guest pays \$1.25. If 200 ninth graders attend the picnic, which inequality can be used to determine the number of guests, x , needed to cover the cost of the permit?

- A. $0.75x - (1.25)(200) \geq 250.00$
B. $0.75x + (1.25)(200) \geq 250.00$
C. $(0.75)(200) - 1.25x \geq 250.00$
D. $(0.75)(200) + 1.25x \geq 250.00$
19. Which value of x will make the fraction, $\frac{36}{20}$, equivalent to $\frac{x}{5}$?

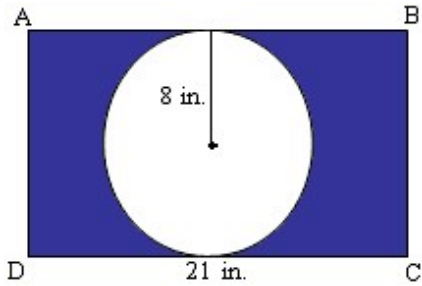
- A. 18
B. 9
C. 10
D. 4
20. There are a total of 126 cats and dogs at an animal shelter. For every 5 dogs, there are 4 cats. How many cats are in the shelter?

- A. 14
B. 28
C. 56
D. 70

21. 58 is 160% of what number? Round your answer to the nearest hundredth, if necessary.

- A. 92.8
- B. 36.25
- C. 2.77
- D. 218

22. Find the area of the shaded region.



Use a calculator and round your answer to the nearest square inch.

Answer: square inches

23. The table shows the cost for buying notebooks from an office supply store.

Number of Notebooks, n	Cost, c
8	\$5.76
11	\$7.92
17	\$12.24
34	\$24.48

Which equation could be used to find the cost, c , for buying any number of notebooks, n ?

- A. $c = 5.76n$
- B. $c = 2.88n$
- C. $c = 1.44n$
- D. $c = 0.72n$

24. Solve the proportion: $\frac{132}{m} = \frac{30}{15}$.

Answer: $m =$

25. The width of a rectangle is 4 less than half the length. If ℓ represents the length, which equation could be used to find the width, w ?

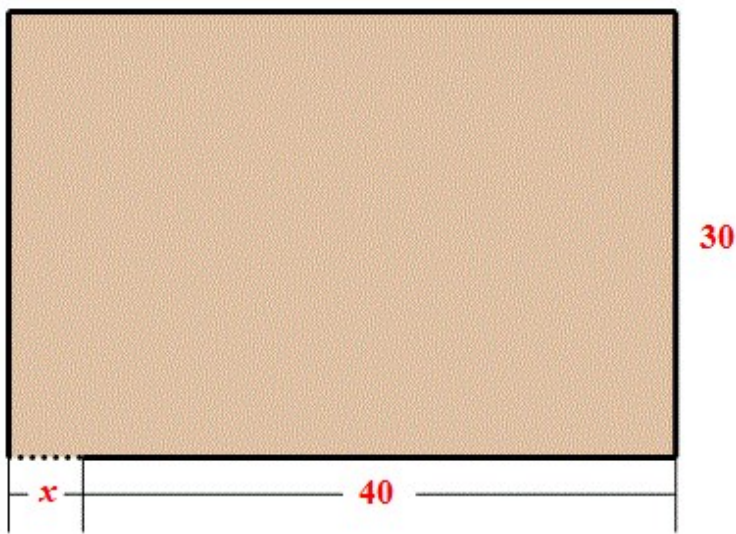
A. $w = \frac{1}{2}(4 - \ell)$

B. $w = \frac{1}{2}(\ell - 4)$

C. $w = \frac{1}{2}\ell - 4$

D. $w = 4 - \frac{1}{2}\ell$

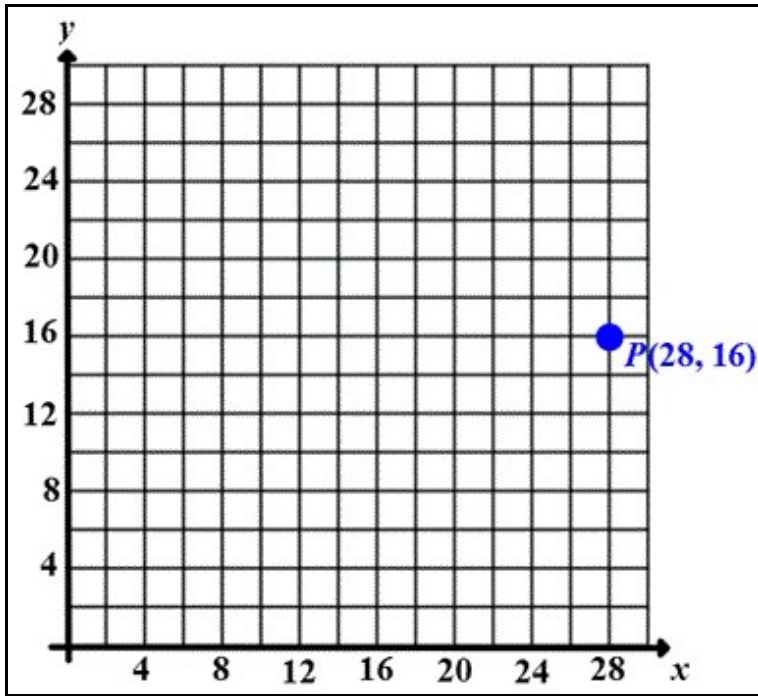
26. Daphne planted a rectangular vegetable garden and enclosed it with a fence. She left an opening on one of the sides of the fence so that she could walk in and out of the garden. The perimeter of the vegetable garden is 150 feet. A diagram of her garden is pictured below.



What is the length of the opening?

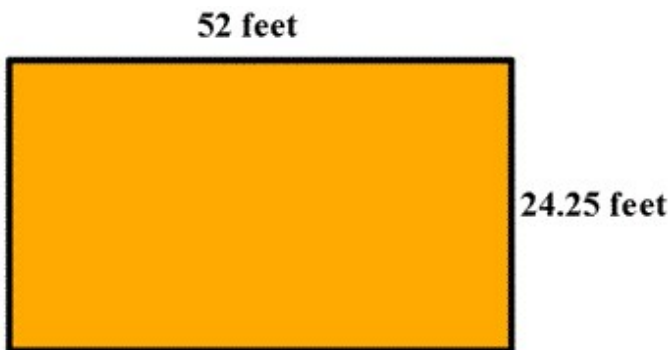
- A. 5 ft
- B. 10 ft
- C. 15 ft
- D. 20 ft

27. Line RP represents a proportional relationship. Point P is graphed on the coordinate plane as shown below.



Which ordered pair could represent the coordinates of point R ?

- A. $(7, 3)$
 - B. $(7, 4)$
 - C. $(3, 7)$
 - D. $(4, 7)$
28. Jack had a company spray a sealant on an outdoor patio shown below.



If the company charged Jack \$1,361.88 to spray the sealant, what was the cost of the sealant per square foot?

- A. \$0.93
- B. \$0.98
- C. \$1.03
- D. \$1.08

29. Matt is in the market to buy some new pants. He sees this sign on the door of a store.



The cost for one pair of pants is \$37.80 and the store applies a 6.85% tax. Matt is going to buy five pairs of pants. What is the mean price for each pair of pants, including tax, to the nearest cent?

- A. \$22.21
B. \$28.27
C. \$36.34
D. \$40.38
30. Three stores sell the same Panthers t-shirt.
- At Store A, the shirt is 65% off the regular price of \$62.79.
 - At Store B, the shirt is 60% off the regular price of \$55.65.
 - At Store C, the shirt is 45% off the regular price of \$42.29.

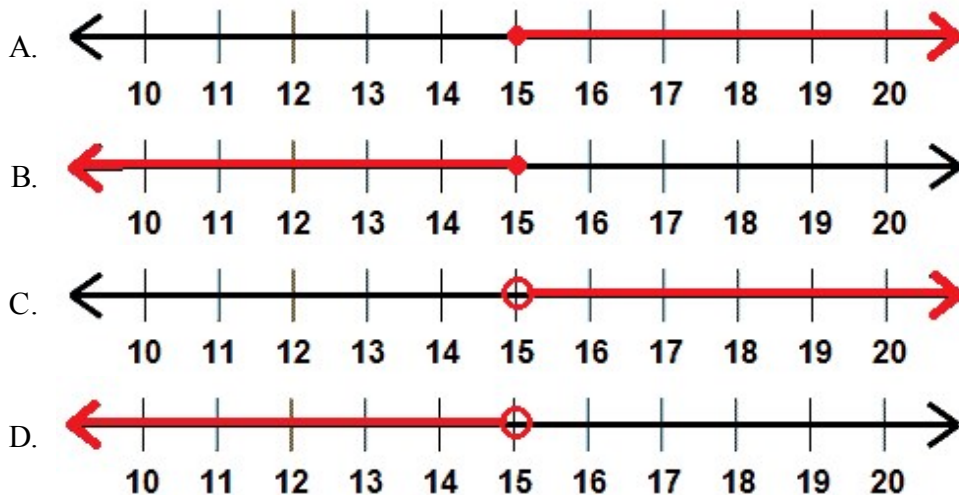
What is the difference in price between the highest and lowest sale prices?

- A. \$0.28
B. \$1.00
C. \$1.28
D. \$1.56
31. Heather planted tomato plants when they were $8\frac{3}{4}$ inches tall. The plants grew $3\frac{1}{4}$ inches per week. When Heather started to pick the tomatoes, the plants were $44\frac{1}{2}$ inches tall. How many weeks ago did Heather plant the tomato plants?
- A. 10
B. 11
C. 12
D. 13

32. Juanita created a scale drawing of her house using the scale 1 inch = 5 feet. In the drawing her house was 10 inches tall. The teacher told Juanita the picture was too small and to redo it using the scale 1 inch = 2 feet. How tall is Juanita's house now in the new drawing?

- A. 10 inches
- B. 20 inches
- C. 25 inches
- D. 50 inches

33. Pizza Palace pays Tony \$40 a night plus \$2 for every delivery he makes. Which number line shows how many pizzas Tony must deliver to make at least \$70 a night?



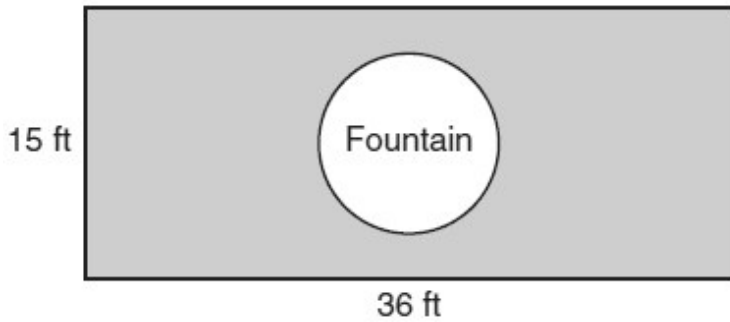
34. Thomas is looking to purchase a new television set. The store offers two different payment options as shown below.

<u>Option #1</u>	<u>Option #2</u>
No Money Down	\$199 Down
\$49.99 a month for 12 months	\$29.99 a month for 12 months

How much money will Thomas save if he chooses Option #2?

Answer: \$

35. The Rock Solid Concrete Company has been asked to pave a rectangular area surrounding a circular fountain with a diameter of 8 feet, as shown in the diagram.



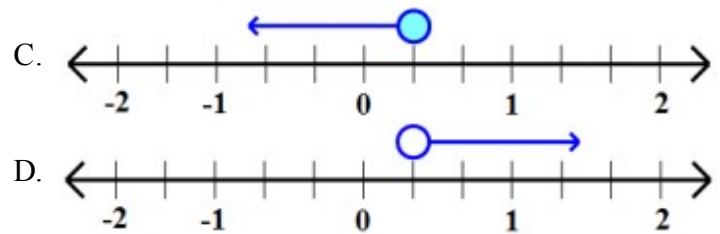
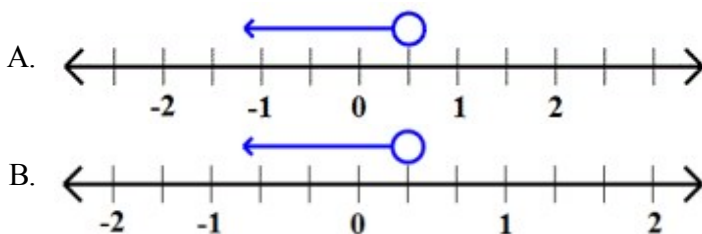
Find the area, to the *nearest square foot*, that must be paved.

Find the cost, *in dollars*, of paving the area if the Rock Solid Concrete Company charges \$8.95 per square foot.

- A. Area = 490; Cost = \$4,385.50
 B. Area = 540; Cost = \$4,833.00
 C. Area = 524; Cost = \$4,689.80
 D. Area = 490; Cost = \$4,336.50
36. Yesterday, the temperature was 80°F . Today, the high temperature was 75°F . What was the percent of change in the temperature?
- A. 5%
 B. 6.25%
 C. 37.5%
 D. 93.75%

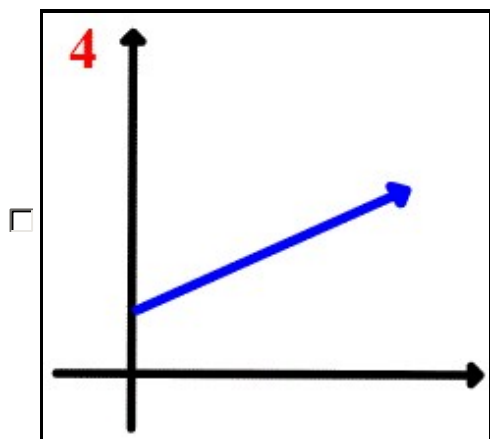
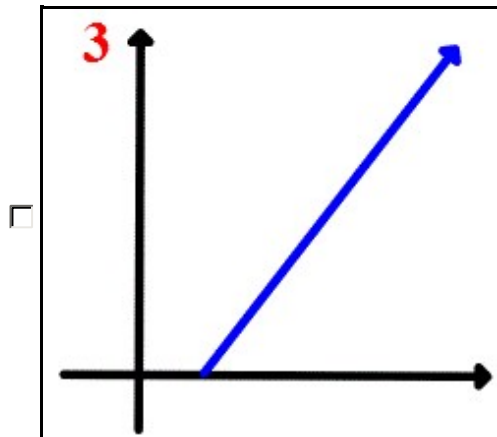
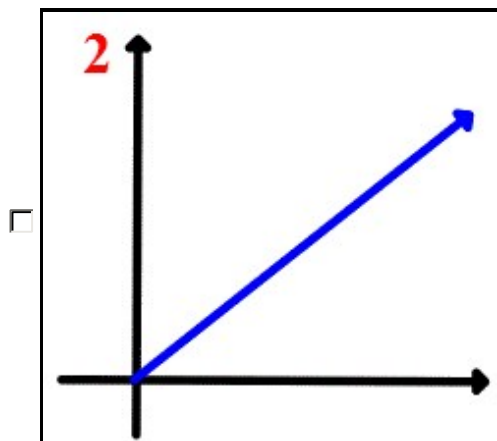
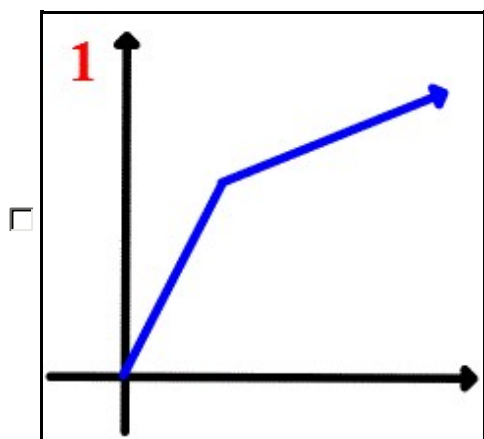
37. A novelist can write $2\frac{1}{4}$ pages in $\frac{3}{4}$ hour. How many pages can she write per hour?

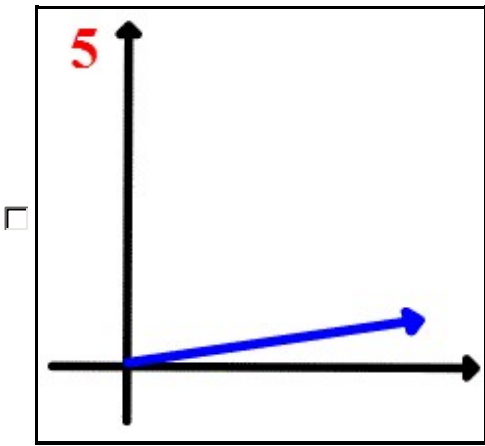
- A. $\frac{1}{3}$ page
 B. $1\frac{1}{2}$ pages
 C. $2\frac{1}{2}$ pages
 D. 3 pages
38. Which graph is a solution to the inequality $-4(3x + 2) > -12$?



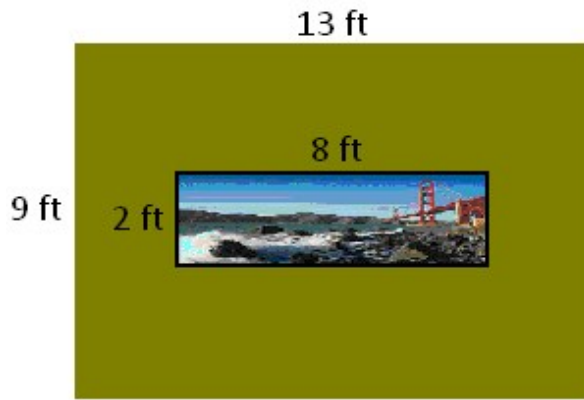
39.

Select the graphs below that represent a proportional relationship by checking the boxes.



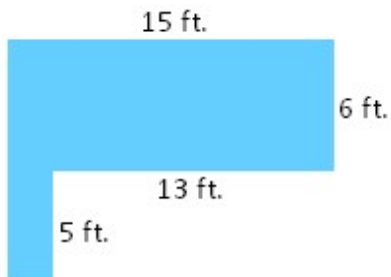


40. The diagram shows a wall with a large photograph.



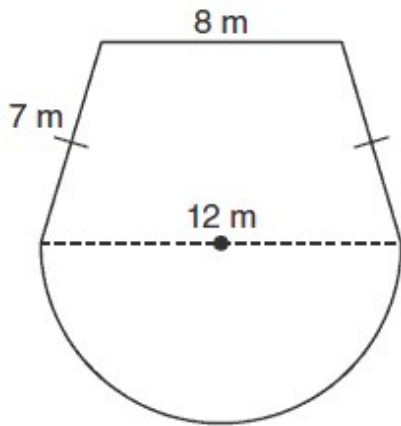
Find the area of the wall not covered by the photograph.

- A. 48 square feet
 - B. 69 square feet
 - C. 101 square feet
 - D. 165 square feet
41. Find the area of the figure.



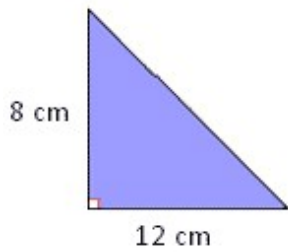
- A. 65 square feet
- B. 90 square feet
- C. 100 square feet
- D. 165 square feet

42. A garden is in the shape of an isosceles trapezoid and a semicircle, as shown in the diagram below. A fence will be put around the perimeter of the entire garden.



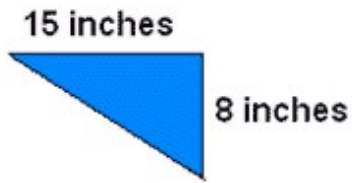
Which expression represents the length of fencing, in meters, that will be needed?

- A. $22 + 6\pi$
 - B. $22 + 12\pi$
 - C. $15 + 6\pi$
 - D. $15 + 12\pi$
43. Find the area of the right triangle.

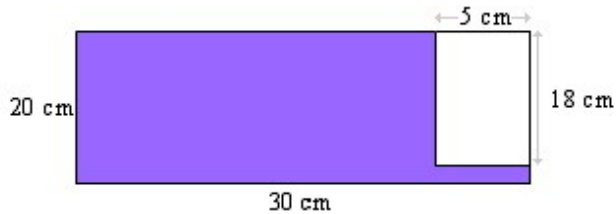


- A. 20 square centimeters
- B. 28 square centimeters
- C. 48 square centimeters
- D. 96 square centimeters

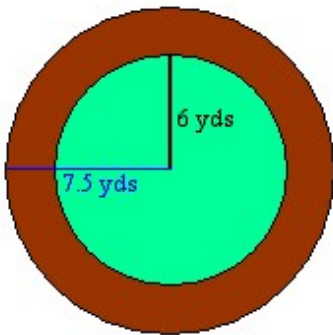
44. Find the area of the right triangle.



- A. 40 square inches
B. 60 square inches
C. 120 square inches
D. 240 square inches
45. Find the area of the shaded region.



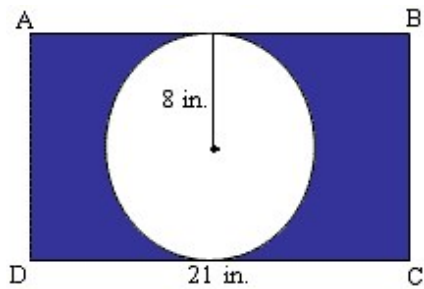
- A. 90 cm^2
B. 690 cm^2
C. 600 cm^2
D. 510 cm^2
46. Peter wants to put gravel on a circular path in his backyard, which is shown as the darker region in the diagram.



What is the area of the circular path? Use 3.14 for π and round your answer to the *nearest tenth* of a square yard.

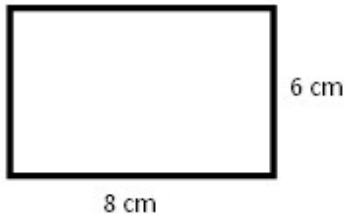
- A. 176.6 yd^2
B. 113 yd^2
C. 63.6 yd^2
D. 47.1 yd^2

47. Find the area of the shaded region.



Use 3.14 for π and round your answer to the nearest square inch.

- A. 135 in^2
B. 286 in^2
C. 537 in^2
D. 201 in^2
48. How will the area of the rectangle change if the length is doubled and the width is tripled?



- A. The new area will be five times larger than the original area.
B. The new area will be six times larger than the original area.
C. The new area will be eight times larger than the original area.
D. The new area will be ten times larger than the original area.
49. Simplify: $6(3x + 4y) + 2(x + 2y)$
- A. $11x + 12y$
B. $44xy$
C. $20x + 28y$
D. $9x + 10y + 4xy$
50. Which expression has the same value as $8 + 2(3 + x)$?
- A. $2x + 24$
B. $x + 14$
C. $2x + 14$
D. $48 + 2x$