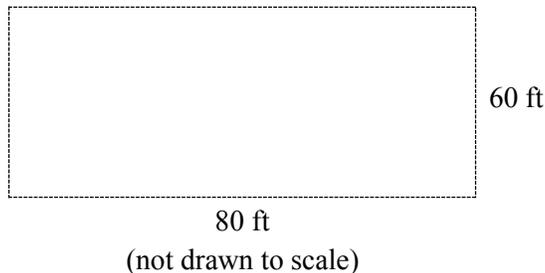


Teacher: _____

Period: _____ Date: _____ Grade: _____

Complete the following questions to the best of your ability. When given choices, circle the correct letter. When asked to write your answer, show ALL of your work.

1. A diagram of Mr. Hill's backyard is shown below.



Mr. Hill wants to plant grass seed in his yard. He needs to know how much seed he should buy. What is the area of Mr. Hill's yard?

Show your work. You must include the formula.

Answer _____ square feet

2. The cost of one roll of wallpaper, a , and one paint can, b , is less than the cost of two paint cans. Which inequality represents this relationship?

(1) $2b < b + a$

(2) $b + a < b^2$

(3) $b^2 < b + a$

(4) $b + a < 2b$

3. Mary has \$608 in her budget for her new room. She withdraws 15% of the money to buy a desk for her room. Which is the best estimate for the amount of money Mary withdraws?

Show your work and circle your answer choice.

(1) \$510

(2) \$90

(3) \$40

(4) \$400

4. If carpet costs \$20.50 a square yard, how much would it cost Mr. Dermott to carpet a room with an area of 150 ft²?

Show your work.

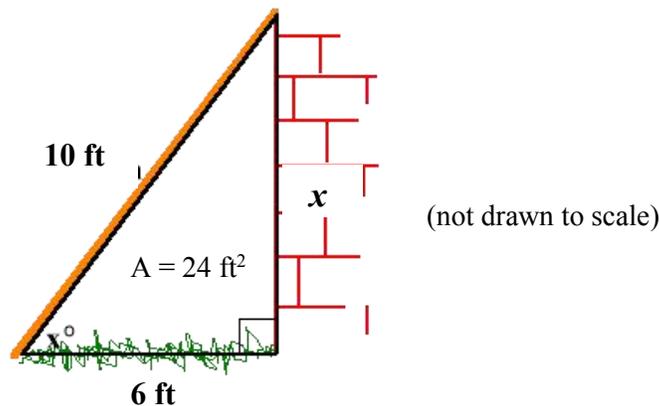
1 yard = 3 feet

Answer \$ _____

5. The Cobb's master bedroom measures 12 feet by 16 feet. The carpet cost was \$33.00 per square yard including installation. What was the cost of the carpet before sales tax?

- (1) \$ 192.00
- (2) \$ 704.00
- (3) \$ 1,848.00
- (4) \$ 6,336.00

6. Lesley is working on her house. She propped a ladder that is 10 feet long against the brick wall of her house, creating a triangle. She knows there is 6 feet from where the bottom of the ladder meets the wall and that the area of the triangle enclosed by ladder is 24 ft².



Which of the following formulas could you use to find the side, x , of the triangle?

- (A) Area ($A=1/2BH$) (B) Perimeter ($P=a+b+c$) (C) Pythagorean theorem ($a^2 + b^2=c^2$)

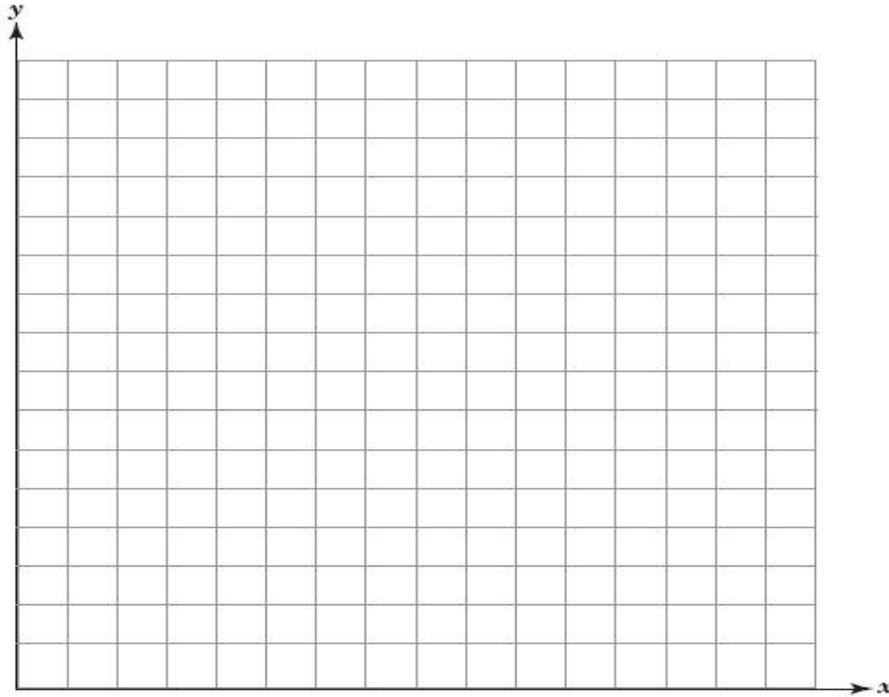
- (1) A and B
- (2) A and C
- (3) B and C
- (4) All of the above

What will be the length of the side of the triangle, x , in feet?

Show your work. You must include the formula.

Answer _____ ft

7. On the grid below, draw a rectangle with a perimeter of 34 units.



What are the lengths of each of the four sides of the rectangle?

_____ units _____ units _____ units _____ units

8. A doll house has been built with a scale of 1 inch = 18 inches. If the table in the dining room of the doll house measures 1.75 inches by 3.5 inches, which of the following represents the actual measures of the table?

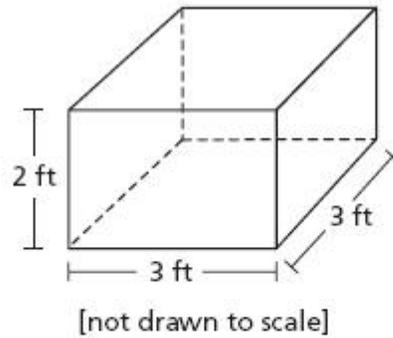
- (1) 31.5 inches by 63 inches
- (2) 31.5 inches by 18 inches
- (3) 10.29 inches by 5.14 inches
- (4) 19.75 inches by 21.5 inches

9. Matt went to the *Used Appliance Depot* to purchase appliances for his new kitchen. He spent \$25.75 on an overhead light, \$15.49 on an extension cord, and \$9.95 on a set of light bulbs, before tax. Tax was 8.25% on all purchases. What was the total cost of Matt's purchases including tax?

Show your work.

Answer \$ _____

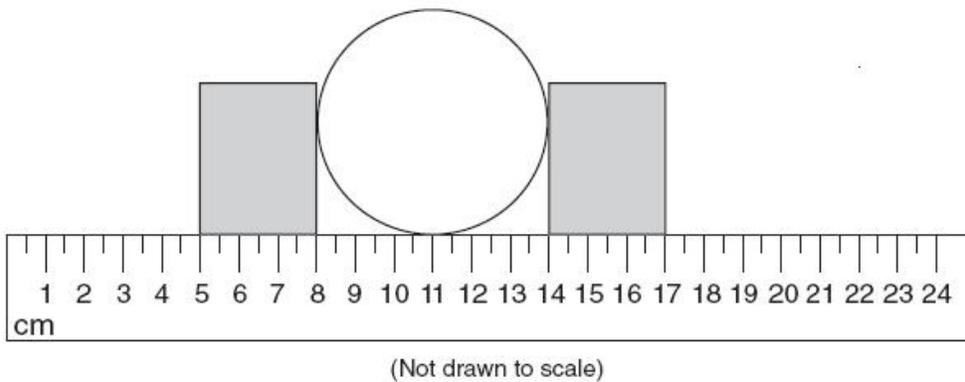
10. Rashid needs to buy some wood to build a box. He must calculate the surface area of the box to determine how much wood to buy. A diagram of the box is shown below.



How much wood does Rashid need to buy to build the box? (remember the box has 6 sides)
Show your work.

Answer _____ square feet

11. The diagram below shows a ball held in place by two blocks. The diameter (width) of the ball is shown between the two blocks.



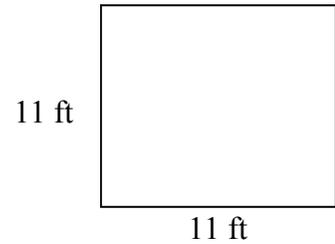
What is the diameter of the ball?

- (1) 17.0 cm
- (2) 14.0 cm

- (3) 8.0 cm
- (4) 6.0 cm

12. The base of Sarah's room will be a square, 11 feet on each side, as seen in the diagram below. The construction cost is set at \$150 per square foot and the total budget for the room is \$27,500. What percent of the total budget will be spent on the construction cost?

Show your work. You must include the formula.



Answer _____ %

13. Which of the nets below corresponds with the shape of a cube, as seen in Figure 1?

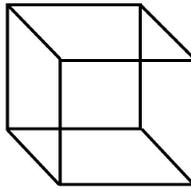
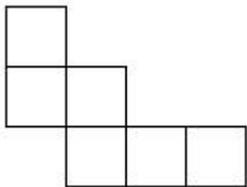
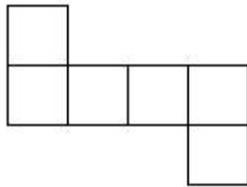


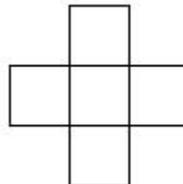
Figure 1



(1)



(2)



(3)



(4)

14. Ethan has two different types of wallpaper in his house, patterned and solid wallpaper. The ratio of patterned wallpaper to solid wallpaper is 1 to 4. What percentage of each type of wallpaper does Ethan have in his house?

Show your work.

Patterned Wallpaper _____ %
Solid Wallpaper _____ %

15. Carla just purchased a cell phone. She compares the cost of two different pay-as-you-go plans offered by her two local telephone companies.

Tele Phone Service	Atlantic Talk
\$5.00 Sign-up Fee	\$9.00 Sign-up Fee
\$0.75 per minute	\$0.50 per minute

Carla wrote the equation below to determine when the two plans will cost the same. She uses m to represent the number of minutes.

$$5 + 0.75m = 9 + 0.50m$$

How many minutes must she talk on the phone in order for both cell phone plans to cost the same?

Show your work.

Answer _____ minutes

16. Wayne's bedroom is 120 square feet in area. One of his considerations in choosing a bed is the percentage of the floor area the bed will require.

Type of bed	Length in inches	Width in inches
Regular Twin	75	30
Long Twin	80	30
Double	75	54
Queen	80	60
King	80	75

What percent of the floor area will the long twin bed require? Your answer should be rounded to the nearest whole percent. (1 square foot = 144 square inches)

- (1) 3%
 (2) 14%

- (3) 23%
 (4) 27%