



Geometry and Measurements

Worksheet 3

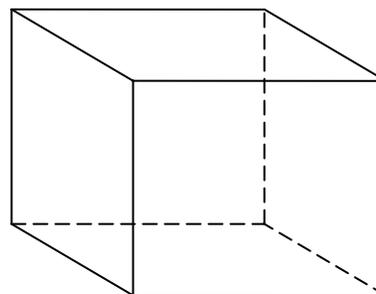
Choice *E*, in multiple-choice questions, is always: *I request help from the teacher.*

You may mark *E* in addition to one other choice if you think that you have the right answer to the question but you do not feel that you have a complete understanding of the problem.

Your teacher will decide whether to use the two-point or four-point scoring rubric for problems that use numbers, pictures, or words to justify/explain your answer(s). You may request help for these questions, too. Write the word “teacher” by your answer(s).

1. Carter wants to know how many small cubes will fit in the larger cube. Which measurement of the box is Carter finding when he fills it with cubes?

- A. the volume of the box
- B. the area of the box
- C. the length of the box
- D. the surface area of the box
- E. Teacher

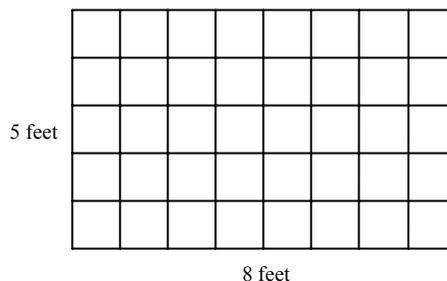


2. A circular table has a circumference of 150 inches. What is a reasonable approximation for the diameter of the table?

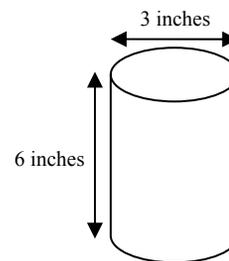
- A. 15 inches
- B. 50 inches
- C. 150 inches
- D. 300 inches
- E. Teacher

3. Chris is planning to carpet her bedroom. The dimensions of Chris’s bedroom are shown. Which expression shows how Chris could find the area of her bedroom in square feet?

- A. $8 + 5$
- B. 8×5
- C. $8 + 5 + 8 + 5$
- D. $8 \times 5 \times 8 \times 5$
- E. Teacher



4. Carter knows that the circumference of a circle is about three times its diameter. He made a pencil holder with a diameter of 3 inches and a height of 6 inches. The pencil holder is in the shape of a cylinder. He wants to cover the outside of the pencil holder – but not the top or the bottom – with leather. About how much material does he need to cover the outside?



The formula for the surface area of a cylinder is $A = 2r\pi h + 2\pi r^2$

- A. 57 square inches
- B. 100 square inches
- C. 71 square inches
- D. 125 square inches
- E. Teacher



5. Pythagleo's bicycle tire has a diameter of $1\frac{1}{2}$ feet. He knows that the circumference of a circle is about three times its diameter. About how far would his bicycle travel when the tire has made twelve revolutions?
- A. 12 feet
B. 24 feet
C. 55 feet
D. 108 feet
E. Teacher
6. Draw two rectangles that have the same area but different perimeters. Label the dimensions. Give the area and the perimeter of both rectangles.
7. The tennis court in Enigma, Ohio measures 20m by 40m. The city council plans to install fencing around the tennis court. There will be a 2m space between each side of the court and the fence. How many meters of fencing will be needed? Explain your answer or show your work.
8. Carter's house has a square-shaped patio that is made up of 144 square concrete slabs. His parents want to make the patio bigger by doubling the length of each side using the same kind of slabs. How many additional patio slabs will they have to buy?
- A. 576 B. 288 C. 144 D. 432 E. Teacher

9. The table shows the relationship between the length of a side of a square and area of a square. When the length of the side of a square is tripled, what is true about the area of the square?

Length of Square's Side	Area of a Square
2 units	4 square units
6 units	36 square units
18 units	324 square units
54 units	2916 square units

- A. The area is two times as large as the previous area.
B. The area is five times as large as the previous area.
C. The area is nine times as large as the previous area.
D. The area is twelve times as large as the previous area.
E. Teacher
10. What is the volume of a cylinder with a diameter of 8 cm and a height of 20 cm? Use the formula that is given below.

$$V = \pi h r^2$$

- A. 1,004.8 cm³ B. 160 cm³ C. 4,019.2 cm³ D. 1,600 cm³ E. Teacher