Date Completed: _____
Mentor Initials: _____

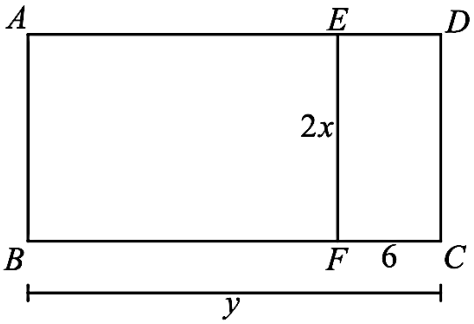
Properties of Quadrilaterals

Multiple Choice

1. If each side of a larger rectangle is four times as long as each side of a smaller rectangle, how does the perimeter of the larger rectangle compare to that of the smaller rectangle?

A) It is 4 times as long.
B) It is 8 times as long.
C) It is 12 times as long.
D) It is 16 times as long.

2. In the figure below, rectangle $ABCD$ is similar to rectangle $DEFC$. Which of the following expresses y in terms of x?



A) $\frac{1}{2}x^2$

B) $\frac{2}{3}x$

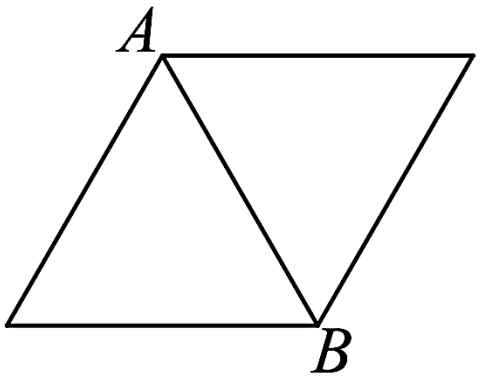
C) $\frac{2}{3}x^2$

D) $6x$

3. Rhombuses G and H are similar. The length of each side of rhombus G is 6 times the length of the corresponding side of rhombus H. The area of rhombus G is how many times as large as the area of of rhombus H?

A) 6
B) 12
C) 18
D) 36

4.



The above parallelogram is composed of two equilateral triangles. If the length of side AB is $2\sqrt{3}$, what is the difference between the perimeter and area of the parallelogram?

A) $\sqrt{3}$
B) $2\sqrt{3}$
C) $4\sqrt{3}$
D) $4\sqrt{3}$

5. The length of a rectangle is y centimeters, and the width of the rectangle is 11 centimeters less than the length. The area of the rectangle is 42 square centimeters. What is the value of y ?

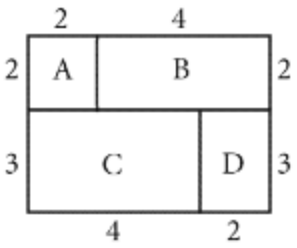
A) 3
B) 6
C) 7
D) 14

Grid-In

6. A trapezoid has base lengths of 12 and n and a height of 2. A square has side lengths of n. If the area of the square and the trapezoid are the same, what is the value of n?

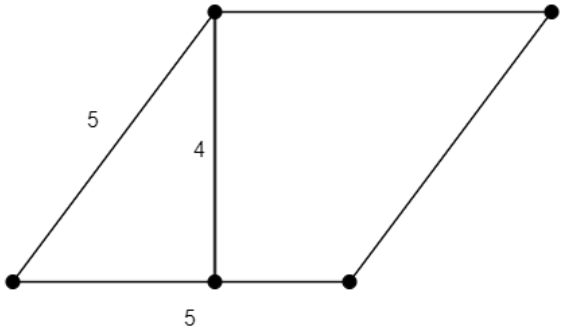
7. Emmerson Mnangagwa is retiling the kitchen floor of his new presidential mansion. If the floor is 6 feet by 9 feet and each square tile has a length of 3 inches, how many tiles does he need?

8.



The 6-by-5 rectangle shown is divided into four rectangular regions, A, B, C, and D. The area of region A is what fraction of the area of the 6-by-5 rectangle?

9.



The length, in feet, of the sides and the height of a parallelogram are shown in the figure. What is the area, in square feet, of the parallelogram?

10. Square B has 4 times the perimeter of square A. If the area of square A is 8, what is the area of square B?