Name: _____

2-6 Additional Practice

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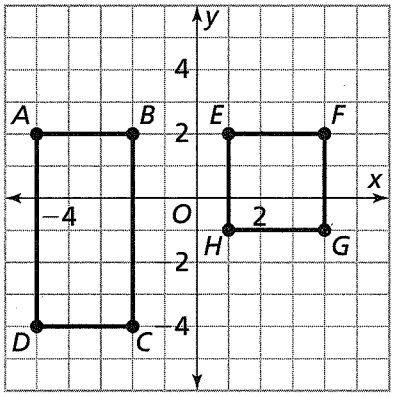
In 1 and 2, use the coordinate plane at the right.

1. What is the perimeter of rectangle *ABCD*?

2. What is the perimeter of square *EFGH*?

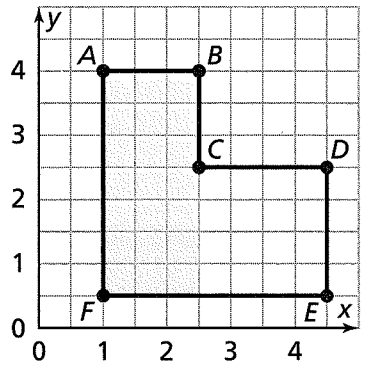


3. Polygon *QRST* has vertices $Q\left(4\frac{1}{2}, 2\right)$, $R\left(8\frac{1}{2}, 2\right)$, $S\left(8\frac{1}{2}, -3\frac{1}{2}\right)$, and $T\left(4\frac{1}{2}, -3\frac{1}{2}\right)$. Is polygon *QRST* a rectangle? Justify your answer.

4. You draw a rectangle with vertices at (−3.5, 3), (3.5, 3), (3.5, −3), and (−3.5, −3). What is the perimeter and area of the rectangle?

In 5–7, use the coordinate plane at the right.

5. Madison used a coordinate plane to map out an L-shaped herb garden, shown at the right. Each unit on the grid represents $\frac{1}{2}$ yard. To buy a fence for the garden, she needs to know its perimeter. What is the perimeter of the garden?



6. Madison plants rosemary in the shaded section of the garden. What is the perimeter of the shaded section?

7. Madison plants sage in the unshaded section of the garden. What is the perimeter of the unshaded section?

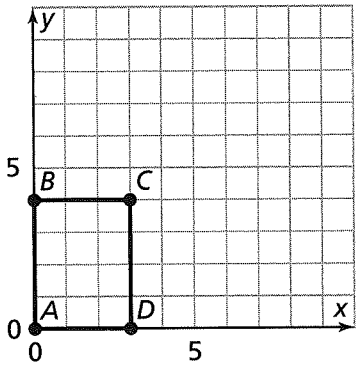
8. **Higher Order Thinking** A rectangle on a coordinate plane has one vertex at $(-5, -6)$ and a perimeter of 30 units. What could be the coordinates of the other 3 vertices?

9. **Use Structure** Mr. Wells drew a plan for a rectangular dog run. The vertices are $\left(2\frac{1}{3}, 7\frac{1}{2}\right)$, $\left(12, 7\frac{1}{2}\right)$, (12, 1), and $\left(2\frac{1}{3}, 1\right)$. What is the perimeter of the dog run?

10. Use the graph of rectangle *ABCD*.

a. Find the lengths of the sides of rectangle *ABCD*.

b. **Reasoning** Suppose you double the length of each side. What would be the new coordinates of point *C* if the coordinates of point *A* stay the same? Explain.



11. Sheila is building an addition to a house. The points $E\left(-1\frac{1}{2}, -2\frac{1}{2}\right)$, $F\left(4\frac{1}{2}, -2\frac{1}{2}\right)$, $G\left(4\frac{1}{2}, 3\frac{1}{2}\right)$, and $H\left(-1\frac{1}{2}, 3\frac{1}{2}\right)$ are the points she plotted on a coordinate plane to draw the new room plan. What is the shape of the addition to the house? What is the perimeter in units?

12. On a math test, the students are asked to find the perimeter of rectangle *STUV* with vertices $S(-6.5, -8.5)$, $T(2.5, -8.5)$, $U(2.5, 3.5)$, and $V(-6.5, 3.5)$. Alberto writes that the perimeter of the rectangle is 18 units. Is he correct? Explain.

Assessment Practice

13. The vertices of $\triangle XYZ$ are $X(-3, 3.3)$, $Y(-3, -5.2)$, and $Z(4.5, -5.2)$.

PART A

What is the distance between points *X* and *Y*?

PART B

Give the coordinates for two points that are 5 units from point *Z*.