1.4

Extra Practice - Area

You can use the formulas below and the Distance Formula to find perimeters and areas of polygons in the coordinate plane.

Perimeter and Area

Triangle



$$P = a + b + c$$
$$A = \frac{1}{2}bh$$

Square



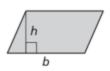
$$P=4s$$

Rectangle



$$P = 2\ell + 2w$$
$$A = \ell w$$

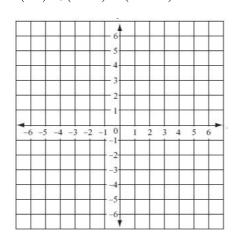
Parallelogram



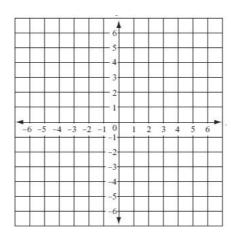
$$A = bh$$

In Exercises 1-4, find the area of the polygon with the given vertices.

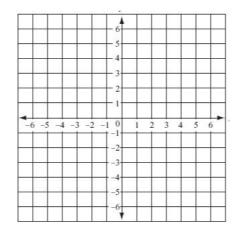
1.
$$P(1, 1), Q(-2, 1), R(-1, -4)$$



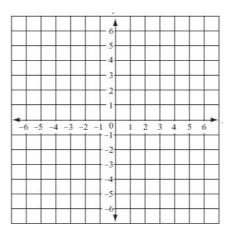
2.
$$A(3, 7), B(5, 7), C(3, -7), D(5, -7)$$



3.
$$T(0, -2), U(3, 5), V(-3, 5)$$

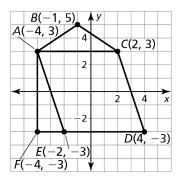


4.
$$A(-3, 3), B(-3, -1), C(4, -1), D(4, 3)$$



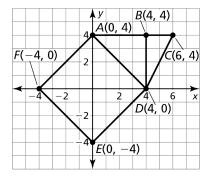
In Exercises 5-8, use the diagram.

- 5. Find the area of r ABC.
- **6.** Find the area of quadrilateral *ACDE*.
- 7. Find the area of triangle EAF.
- **8.** Find the area of pentagon *ABCDF*.

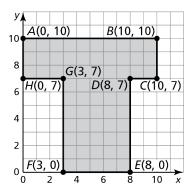


In Exercises 9-12, use the diagram.

- **9.** Find the perimeter of square *ADEF*.
- **10.** Find the perimeter of r *BCD*.
- **11.** Find the area of square *ADEF*.
- **12.** Find the area of r ACD.



- **13.** You are buying tile for your bathroom floor and baseboards for your bathroom walls. In the figure, the entire polygon represents the layout of the floor. Each unit in the coordinate plane represents 1 foot.
 - **a.** Find the area of the floor.
 - **b.** Find the perimeter of the floor.
 - **c.** The cost of the baseboard is \$2 per foot. The cost of the tile is \$2.50 per square foot. Find the total cost to buy tile and baseboards for your bathroom.



Answers

1)	2)		3)		4)
5)	6)		7)		8)
9)	10)		11)		12)
13a) 13b)		13c)			