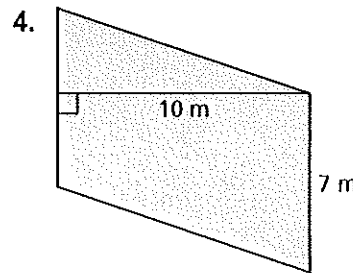
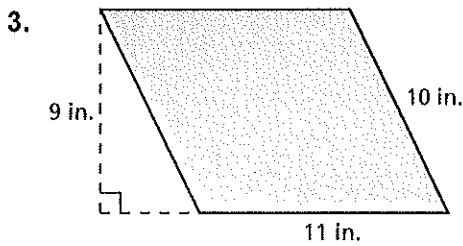
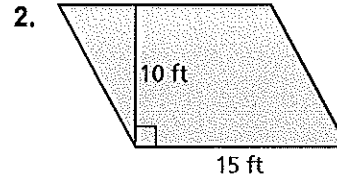
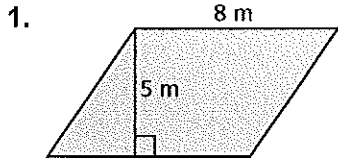
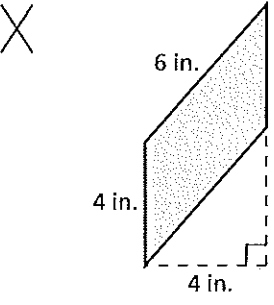


4.1 Practice A

Find the area of the parallelogram.

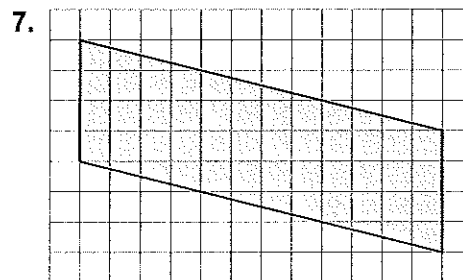
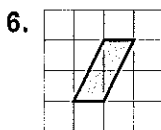


5. Describe and correct the error in finding the area of the parallelogram.



$A = 4(6) = 24 \text{ in.}^2$

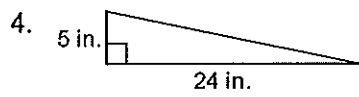
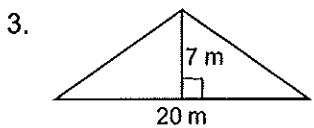
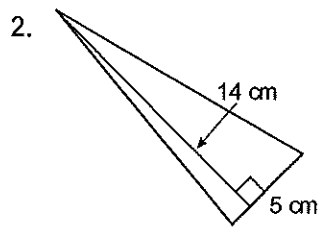
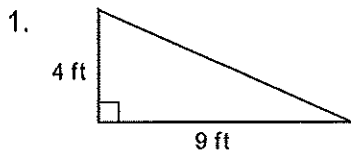
Find the area of the parallelogram.




8. A square has side length 6 inches. A parallelogram has a base of 6 inches. The area of the square is equal to the area of the parallelogram. What is the height of the parallelogram?

4.2 Practice A

Find the area of the triangle.

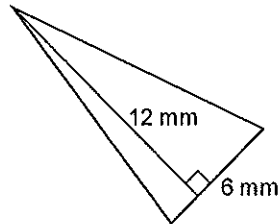
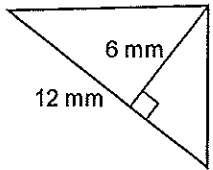


5. Describe and correct the error in finding the area of the triangle.



$A = 20(9) = 180 \text{ ft}^2$

6. Find the area of each triangle. Are the areas the same? Explain.



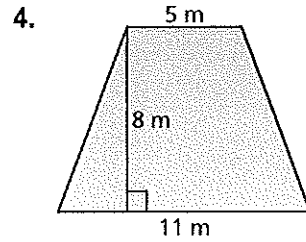
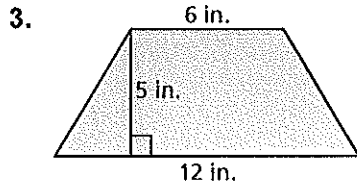
7. Triangle A and Triangle B have the same base. The height of Triangle B is twice the height of Triangle A. How many times greater is the area of Triangle B?

4.3 Practice A

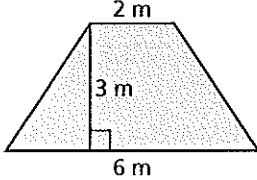
Find the area of the trapezoid.

1. $b_1 = 10, b_2 = 7, h = 4$

2. $b_1 = 3, b_2 = 8, h = 6$



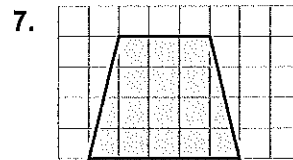
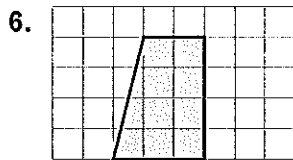
5. Describe and correct the error in finding the area of the trapezoid.



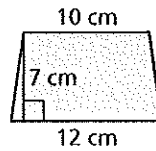
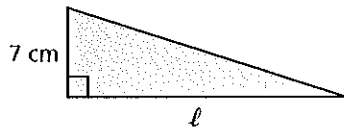
$A = \frac{1}{2}(3)(2)(6) = 18 \text{ m}^2$

The diagram shows a trapezoid with a top base of 2 m, a bottom base of 6 m, and a height of 3 m. A vertical line segment from the top base to the bottom base is labeled 3 m and has a right-angle symbol at the bottom base. An 'X' is drawn in the top-left corner of the box. Below the diagram is the equation $A = \frac{1}{2}(3)(2)(6) = 18 \text{ m}^2$.

Find the area of the trapezoid.

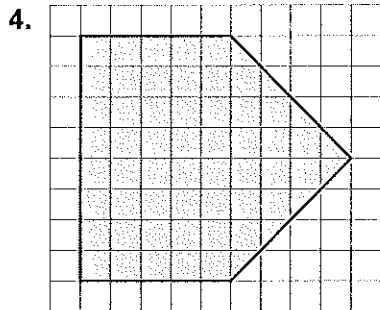
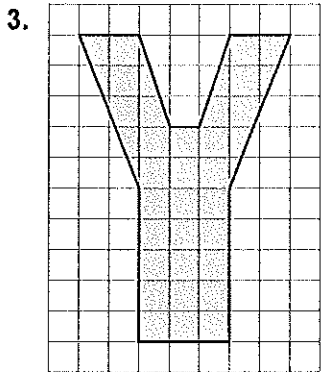
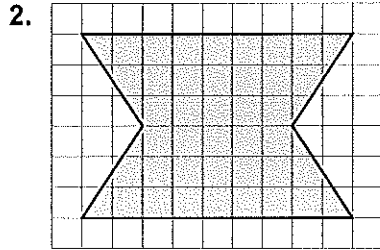
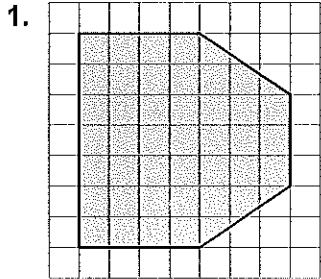


8. The triangle and the trapezoid have the same area. What is the length ℓ of the triangle?

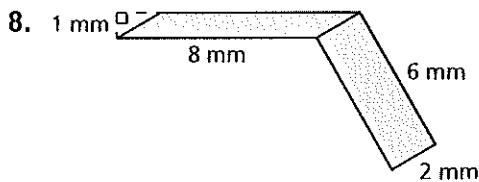
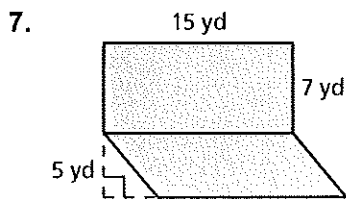
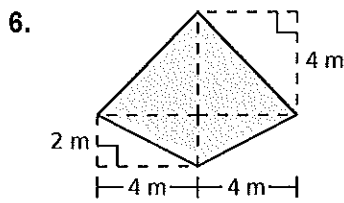
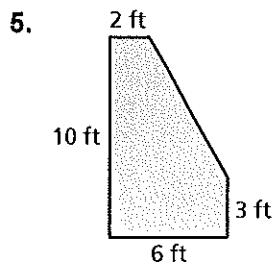


Extension
4.3 Practice

Find the area of the shaded figure.



Find the area of the figure.



4.4 Practice A

Find and label each pair of points in a coordinate plane. Find the length of the line segment connecting the points.

1. $F(1, 0), G(6, 0)$ 2. $J(3, 1), K(3, 3)$ 3. $W(5, 2), X(7, 2)$

Draw the polygon with the given vertices in a coordinate plane.

4. $A(2, 5), B(0, 0), C(3, 2)$ 5. $D(3, 1), E\left(2, \frac{1}{2}\right), F(6, 2)$
6. $G(4, 1), H(9, 1), J(9, 3), K(4, 3)$ 7. $L\left(4, 2\frac{1}{2}\right), M(4, 6), P(7, 6), N\left(7, 2\frac{1}{2}\right)$

Find the perimeter and area of the polygon with the given vertices.

8. $E(0, 0), F(7, 0), G(7, 2), H(0, 2)$ 9. $P(4, 5), Q(4, 9), R(8, 9), S(8, 5)$
10. You design a courtyard using a coordinate plane. You plot the vertices of the courtyard at $F(1, 0), G(5, 8)$, and $H(1, 8)$. The coordinates are measured in yards.
- What is the shape of the courtyard?
 - What is the area of the courtyard?

Draw a polygon with the given conditions in a coordinate plane.

- a rectangle with a perimeter of 20 units
- a square with a perimeter of 16 units
- a square with an area of 25 square units
- a triangle with an area of 6 square units
- The coordinate plane shows three vertices of a parallelogram. Find two possible points that could represent the fourth vertex.

