

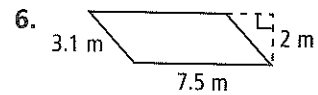
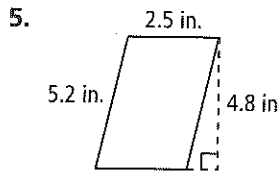
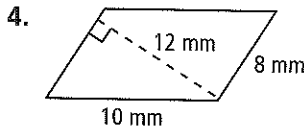
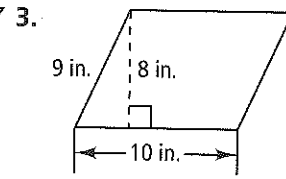
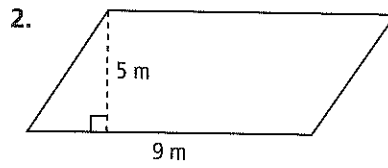
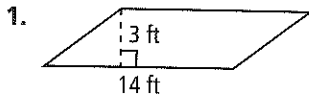
10-1

Practice

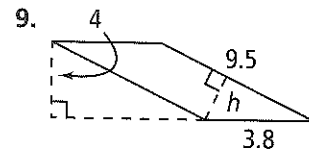
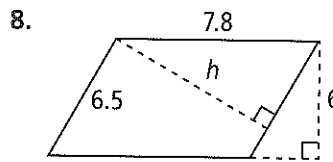
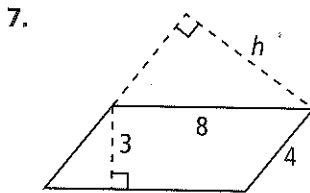
Form G

Areas of Parallelograms and Triangles

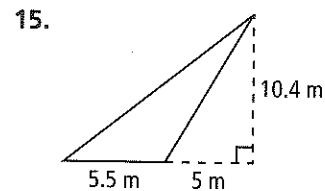
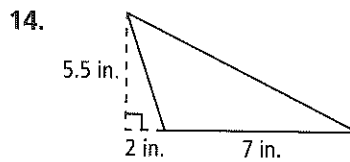
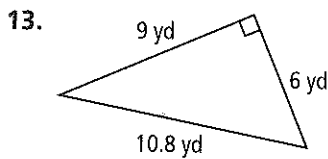
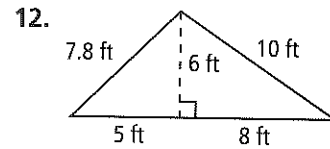
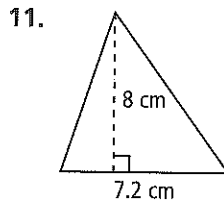
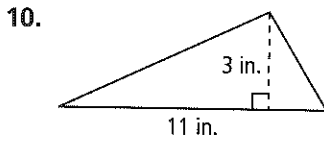
Find the area of each parallelogram.



Find the value of h for each parallelogram.



Find the area of each triangle.



16. **Algebra** In a parallelogram, a base, b , and its corresponding height, h , are in the ratio of 5 : 3. The area is 135 mm^2 . Find b and h .

17. **Reasoning** A triangle has an area of 18 ft^2 . List all the possible positive integers that could represent its base and height.

10-1 Standardized Test Prep

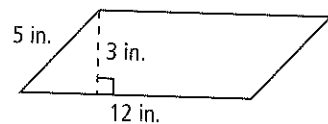
Areas of Parallelograms and Triangles

Multiple Choice

For Exercises 1-6, choose the correct letter.

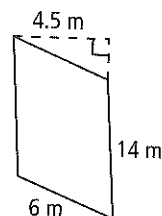
1. What is the area of the parallelogram at the right?

- A 18 in.² C 36 in.²
 B 30 in.² D 60 in.²



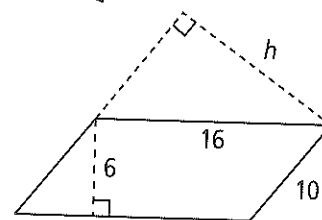
2. What is the area of the parallelogram at the right?

- F 31.5 m² H 84 m²
 G 63 m² I 126 m²



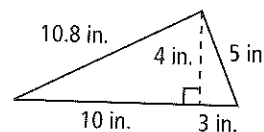
3. What is the value of h for the parallelogram at the right?

- A 9.6 units C 48 units
 B 26.7 units D 96 units



4. What is the area of the figure at the right?

- F 26 in.² H 52 in.²
 G 27 in.² I 54 in.²

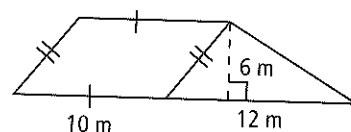


5. A parallelogram has sides 8 ft and 6 ft and an area of 54 ft². What is the length of the altitude to the 8-ft base?

- A 6.75 ft B 9 ft C 24 ft D 27 ft

6. What is the area of the figure at the right?

- F 36 m² H 72 m²
 G 60 m² I 96 m²



Short Response

7. In a triangle, a base and a corresponding height are in the ratio 5 : 2. The area is 80 ft². What is the base and the corresponding height? Show your work.

10-2 Think About a Plan

Areas of Trapezoids, Rhombuses, and Kites

- Coordinate Geometry** Graph the lines $x = 0$, $x = 6$, $y = 0$, and $y = x + 4$.
- What type of quadrilateral do the lines form?
- Find the area of the quadrilateral.

Understanding the Problem

- What type of line does $x = 0$ and $x = 6$ represent? What type of line does $y = 0$ represent?

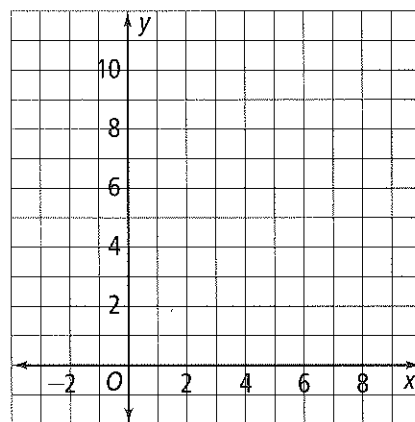
- What can you tell about the relationships among the lines $x = 0$, $x = 6$, and $y = 0$?

- How do you graph a line in the form $y = mx + b$?

Planning the Solution

- Graph the lines on the coordinate grid. What type of quadrilateral is formed? How can you tell?

- What is the formula for finding the area of this type of quadrilateral?
- Which lines contain the bases? Explain.



- How can you find the lengths of the bases?

- Which line contains the height? How can you find the length of the height?

Getting an Answer

- Substitute the values for the bases and height into the formula and solve for the area.

10-2

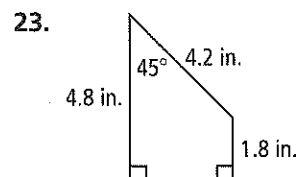
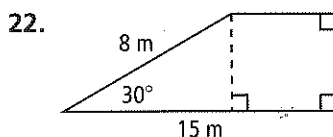
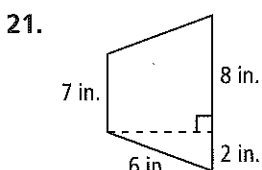
Practice (continued)

Form G

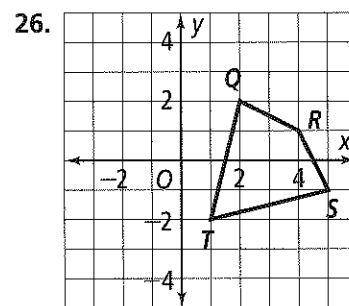
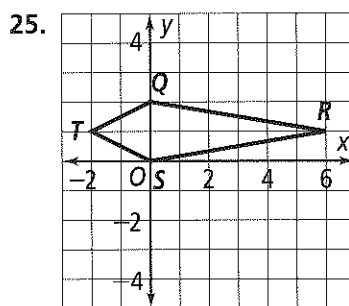
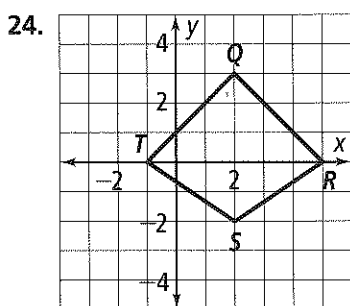
Areas of Trapezoids, Rhombuses, and Kites

20. A trapezoid has two right angles, 16 in. and 20 in. bases, and 5 in. height. Sketch the trapezoid and find its perimeter and area.

Find the area of each trapezoid to the nearest tenth.



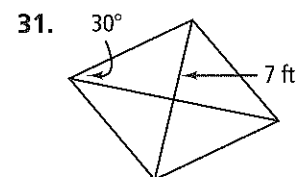
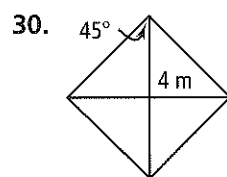
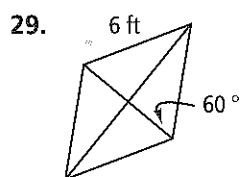
Coordinate Geometry Find the area of quadrilateral $QRST$.



27. **Coordinate Geometry** Graph the lines $y = x - 2$, $y = -x + 2$, $y = 2x - 10$, and $y = -2x - 2$. What type of quadrilateral do the lines form? Find the area of the quadrilateral.

28. **Algebra** One diagonal of a rhombus is 5 less than twice the other diagonal. The area is 75 cm^2 . Find the length of each diagonal.

Find the area of each rhombus. Leave your answer in simplest radical form.



32. Trapezoid $QRST$ has two right angles. A 5 in. altitude can be drawn dividing $QRST$ into a rectangle and an isosceles right triangle. The longer side of the rectangle measures 9 in. What is the area of the trapezoid?
33. In isosceles trapezoid $EFGH$, $\overline{FG} \parallel \overline{EH}$, $FG = 10$, $GH = 12$, and $m\angle E = 60$. Find the area of $EFGH$.