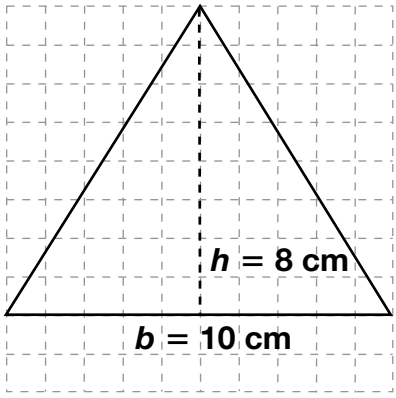
Name _____

Reteaching
12-3

Area of Triangles

Find the area of this triangle.



Use the formula $A = \frac{1}{2}bh$.

$A = \frac{1}{2} \times 10 \times 8$

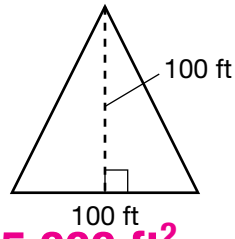
$A = 5 \times 8$

$A = 40 \text{ cm}^2$

The area of the triangle is 40 cm^2.

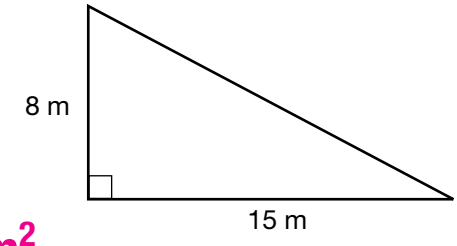
Find the area of each triangle.

1.



5,000 ft^2

2.



60 m^2

3. Triangle: $b = 6$ ft, $h = 9$ ft

27 ft^2

4. Triangle: $b = 18$ m, $h = 13$ m

117 m^2

5. Triangle: $b = 20$ in., $h = 9\frac{1}{2}$ in.

95 in^2

6. Writing to Explain Rebekah needs to find the area of a right triangle. She knows all the side lengths of the right triangle, but she says that she also needs to know the height. Is she correct? Explain.

She is not correct. The lengths of the sides adjacent to the right angle in a right triangle are the height and the base. So, she has the measurements that she needs to find the area.

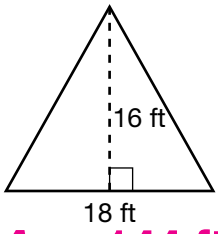
Name _____

Practice
12-3

Area of Triangles

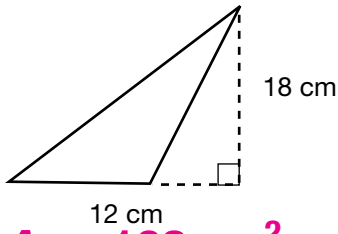
Find the area of each triangle.

1.



$A = 144 \text{ ft}^2$

2.



$A = 108 \text{ cm}^2$

3. Triangle
$b = 30$ m
$h = 15.6$ m

$A = 234 \text{ m}^2$

4. Triangle
$b = 18$ in.
$h = 6\frac{1}{2}$ in.

$A = 58\frac{1}{2} \text{ in}^2$

5. Triangle
$b = 20$ ft
$h = 3$ yd

$A = 90 \text{ ft}^2$

6. Writing to Explain The area of a triangle is 42 square inches. The triangle's base is 6 inches. Find the height of the triangle. Explain how you do it.

Sample answer: I substituted the numbers I know into the formula and solved for h. $A = \frac{1}{2}bh$; $42 = \frac{1}{2}(6)h$; $42 = 3h$; $42 \div 3 = 3h \div 3$; 14 in. $= h$.

7. Number Sense A triangle has a base of 2 m and a height of 4 m. Find the area of the triangle in square millimeters.

$\frac{1}{2}(2{,}000)(4{,}000) = 4{,}000{,}000 \text{ mm}^2$

8. Estimation Which is the best estimate of the area of a triangle that has a base of 23.62 cm and a height of 8.33 cm?

A 200 cm^2 **B** 160 cm^2 **C** 100 cm^2 **D** 50 cm^2

9. Reasoning The area of a triangle is 36 cm^2. Give 3 possible sets of dimensions for the triangle and explain whether or not you can also give the triangles' side lengths.

Possible dimensions are 6 cm × 12 cm, 8 cm × 9 cm, 2 cm × 36 cm. The base of the triangle gives us one side length. But we can not determine the other side lengths from the information given.

