

9.2 Area of Triangles (6.G.1)

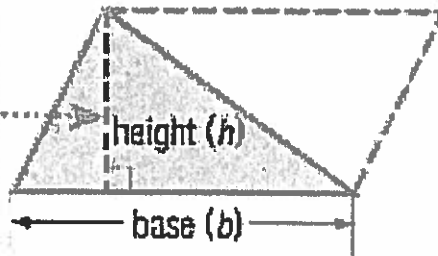
Vocabulary

triangle - a closed plane figure made with three line segments.

Key Concepts: Triangle

$$\text{Area} = \frac{1}{2} \cdot \text{base} \cdot \text{height} \quad \text{OR} \quad A = \frac{1}{2} \cdot b \cdot h$$

The base of a triangle can be any one of its sides. The height is the perpendicular distance from that base to the opposite vertex.

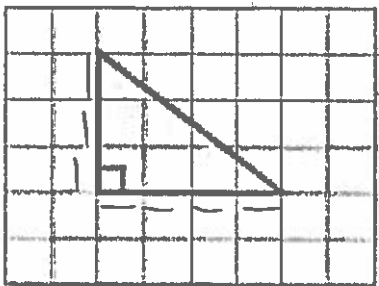


Step:

- 1.) Write the formula.
- 2.) Fill in the numbers.
- 3.) Answer.

Guided Practice:

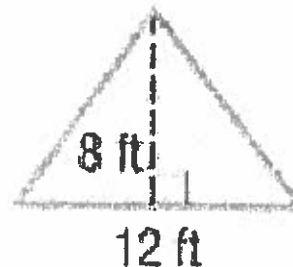
Find the area of each triangle.



$$A = \frac{1}{2} \cdot b \cdot h$$

$$A = \frac{1}{2} \cdot 4 \cdot 3$$

$$A = 6 \text{ units}^2$$



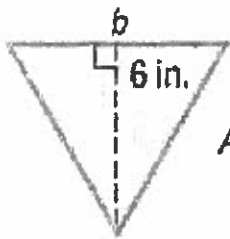
$$A = \frac{1}{2} \cdot b \cdot h$$

$$A = \frac{1}{2} \cdot 12 \text{ ft} \cdot 8 \text{ ft}$$

$$A = 48 \text{ ft}^2$$

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3.) Tayshan designs uniquely shaped ceramic floor tiles. What is the base of the tile shown?



$$A = \frac{1}{2} \cdot b \cdot h$$

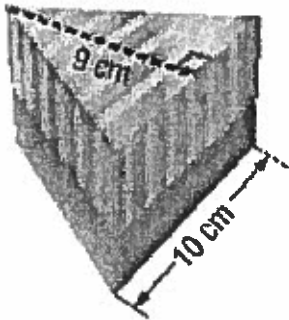
$$A = 21 \text{ in}^2 \quad 21 \text{ in}^2 = \frac{1}{2} \cdot b \cdot 6 \text{ in}$$

$$21 \text{ in}^2 = \cancel{3 \text{ in}} \cdot b$$

$$\div 3 \text{ in.} \quad \div 3 \text{ in.}$$

$$\boxed{7 \text{ in.} = b}$$

4.) Consuela made a triangular paper box as shown. What is the area of the top of the box?



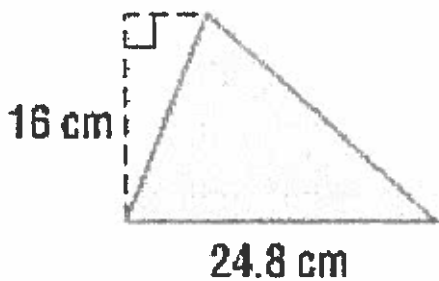
$$A = \frac{1}{2} \cdot b \cdot h$$

$$A = \frac{1}{2} \cdot 10 \text{ cm} \cdot 9 \text{ cm}$$

$$\boxed{A = 45 \text{ cm}^2}$$

Partner Talk

Find the area of the triangle.



$$A = \frac{1}{2} \cdot b \cdot h$$

$$A = \frac{1}{2} \cdot 24.8 \text{ cm} \cdot 16 \text{ cm}$$

$$\boxed{A = 198.4 \text{ cm}^2}$$

Building on the Essential Question - How is the formula for the area of a triangle related to the formula for the area of a parallelogram?

A triangle is half a parallelogram, so the formula is $A = \frac{1}{2} \cdot b \cdot h$

Rate Yourself -



_____ I understand how to find the area of triangle.

_____ I still have questions about the area of a triangle.