Lesson 3: The Area of Acute Triangles Using Height and Base

Problem Set

Calculate the area of each shape below. Figures are not drawn to scale.

$$8 m$$

$$14 m$$

$$16 m$$

1. 2.

$$4.4 in.$$

$$3.3 in.$$

$$6.1 in.$$

$$5.5 in.$$



1. 4.

$$5 ft.$$

$$12 ft.$$

$13$ ft.

$$13 ft.$$

$12$ ft.

$$12 ft.$$

$$5 ft.$$

5. Immanuel is building a fence to make an enclosed play area for his dog. The enclosed area will be in the shape of a triangle with a base of $48 m.$ and an altitude of $32 m$. How much space does the dog have to play?

6. Chauncey is building a storage bench for his son’s playroom. The storage bench will fit into the corner and against two walls to form a triangle. Chauncey wants to buy a triangular shaped cover for the bench.

Note: Figure is not to scale.

If the storage bench is $2\frac{1}{2} ft.$ along one wall and $4\frac{1}{4} ft.$ along the other wall, how big will the cover have to be to cover the entire bench?

$5$ in.

$3$ in.

$4$ in.

$7$ in.

1. Examine the triangle to the right.
	1. Write an expression to show how you would calculate the area.
	2. Identify each part of your expression as it relates to the triangle.

1. The floor of a triangular room has an area of $32\frac{1}{2} sq. m.$ If the triangle’s altitude is $7\frac{1}{2} m$, write an equation to determine the length of the base, $b$, in meters. Then solve the equation.