#1

What is area?   What is a unit of measure for area?

Hint: This is

1square unit

or

1 unit^2

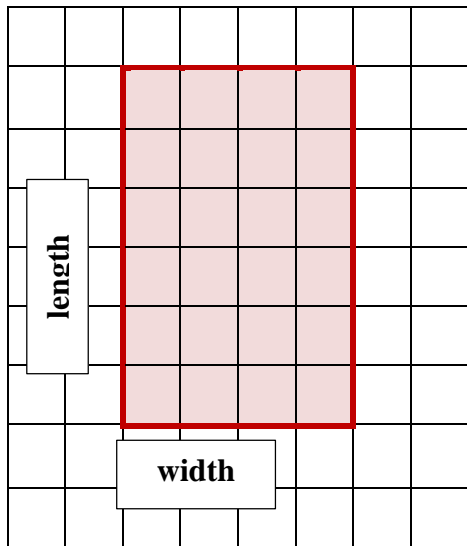*Hint*: Count the square units in
the shaded rectangle.

Area = 12 square units

#2 What is the area of the rectangle?

Area by counting = 24 units^2

Formula to find area of a rectangle:

Length = 6 units

Width = 4 units

Area = length x width

   A = l x w

   A = 6 units x 4 units

   A = 24 units^2

Area by counts = Area by formula

   24 units^2 = 24 units^2

What is the area of the rectangle?

Area by counting = 16 units^2

Formula to find area of a rectangle:

Length = 4 units

Width = 4 units

Area = length x width
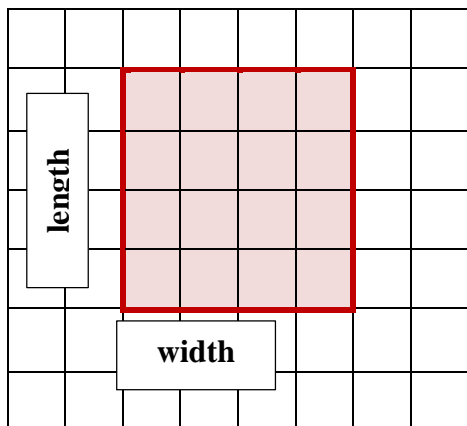
   A = l x w

   A = 4 units x 4units

   A = 16 units^2

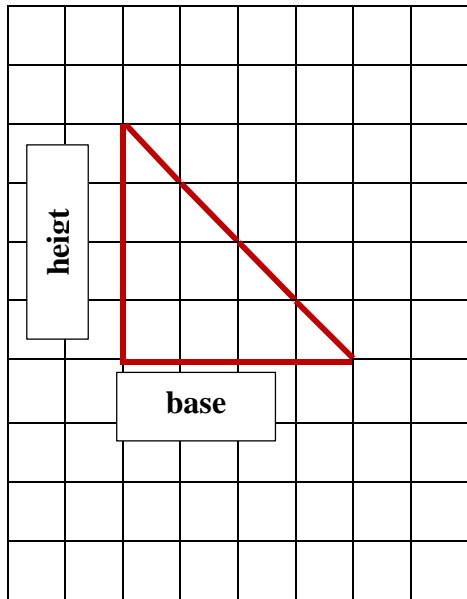**Area by counts = Area by formula**

   16 units^2 = 16 units^2

What is the area of Sarah's rectangular garden with a length of 12 feet and a width of 3 feet?

Step 1: Formula for area of a rectangle is A = l x w
Step 2: Substitute values for length and width A = 12ft x 3ft
Step 3: Do the math (12ft x 3ft = 36ft^2) A = 36ft^2

#3 What is the area of the right triangle?

[Grid with red right triangle labeled with "heigt" on vertical side and "base" on horizontal side]

[Grid with red right triangle and dashed square completing it, labeled "heigt" and "base"]

Area by counting = 8 units^2

Steps to determine the formula for area of a triangle:

**Step 1:** draw a connecting triangle the same size as and connected to the first triangle

Step 2: What shape do they make? A square

Step 3: Find the area of the square
A = l x w   A = 4 units x 4 units

A = 16 units^2

Step 4: How do the areas of the triangle and the square compare?

A◣ = 8 units^2 : A▢ = 16 units^2

The area of the triangle is ½ that of the square. If you fold the square in half, you get the triangle.
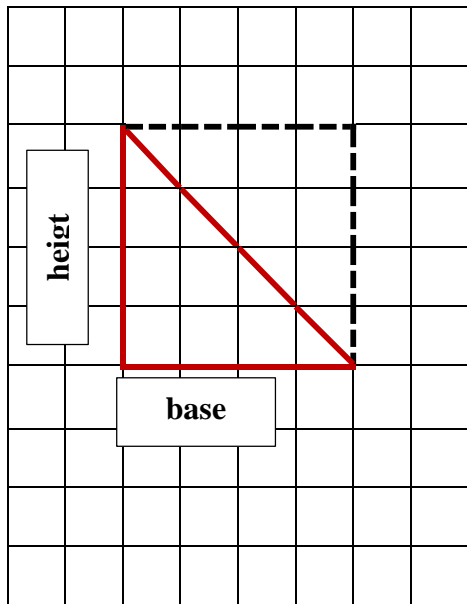
To determine area of a triangle, you must determine the base and the height of the triangle.

base =4 units

height = 4 units

Area = ½ (base x height)

A = ½ (b x h)

A = ½ (4 units x 4units)

A = ½ (16units^2)

A = 8 units^2

Area by counts = Area by formula

8 units^2 = 8 units^2

#4 What is the base and height of a triangle?

Right triangle

height
5 units

base   5 units

Other triangles

height   5 units

base   4 units

height
5 units

base   5 units
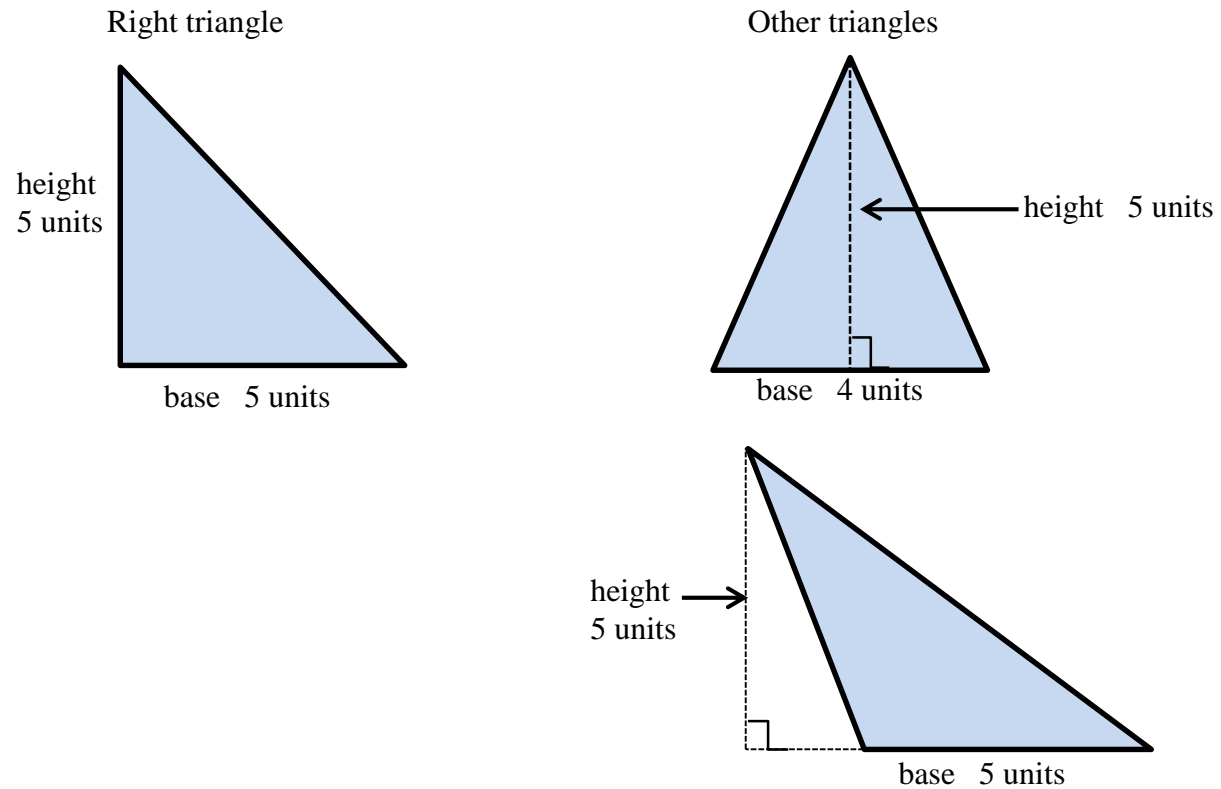
What do the base and height have in common in the three triangles shown?
The base and height are perpendicular to each other.

What is the area for the triangle shown?
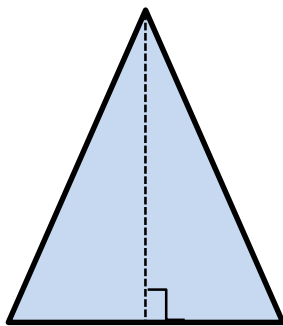
Base of the triangle = 4 units
Height of the triangle = 6 units

Area of the triangle:
Step 1: Formula for area of a triangle $A = \frac{1}{2} \, b \times h$
Step 2: Substitute values for base and height $A = \frac{1}{2} \, (5 \times 4)$
Step 3: Calculate the area $A = \frac{1}{2} \, (20) = 10 \text{ units}^2$

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