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# **Calculating area - Triangles**

### Reading/discussion

Do you remember how to calculate the area of a square or rectangle? Both of these shapes are **parallelograms.** The method you use the calculate the area of a parallelogram is to multiply the base by the height, and the answer will give you the area in **square units.** This is what the formula looks like: A = b x h (A is area, b is base and h is height.)

Now let's look at triangles: How do we find the area of a triangle? Well, it helps to remember that a triangle is half of a parallelogram:



Each parallelogram can be divided into 2 triangles. So can you guess how to work out the area of a triangle? Right! We multiply the base by the height and then divide by 2. This means that the formula for calculating the area of a triangle is:  $A = \frac{1}{2}$  (b x h). Don't forget that the answer will still be in square units.

This is quite easy to calculate in a right triangle:

where the height is

**perpendicular** to the base. However, in an acute triangle:

or an obtuse triangle:

a line has to be drawn at right angles to the base as shown above in order to calculate the height of the triangle.

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### Activities:

#### A. Calculate area.

Calculate the areas of the following triangles. First write down the formula and then do your calculation. Note: the triangles are not drawn to scale.

- Find the area of a right triangle with a base of 4 inches and a height of 6 inches.
- 2. Find the area of an acute triangle with a base of 14 inches and a height of 5 inches.
  - 3. Find the area of an obtuse triangle with a base of 6 inches and a height of 9 inches.



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### B. Draw and calculate.

Now draw your own triangles, any size you like, one right triangle, one acute triangle and one obtuse triangle. Measure the base and height of each one and calculate the area. Don't forget to draw the dotted perpendicular line in the acute and obtuse triangles to represent the height!

# **Answer Sheet**

## Activity A.

- 1. 12 square inches.
- 2. 35 square inches.
- 3. 27 square inches.

#### Activity B.

The answer will depend upon the triangles the children draw.