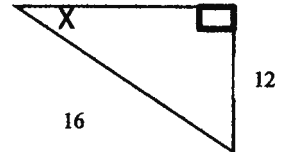**Review:**
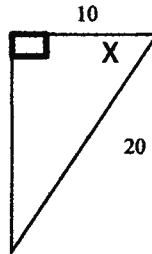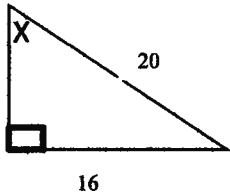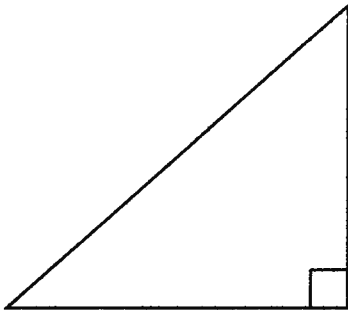
Which trig ratio would you use to solve each of the following problems?

We have learned the Sine and Cosine ratio. Both of these ratios dealt with the hypotenuse. When we do not know the hypotenuse we will need to use the _____ ratio.

Thus far we have learned the Sine and Cosine ratio. Both of these ratios dealt with the hypotenuse. When we do not know the hypotenuse we will need to use the _____ ratio.

The Tangent Ratio

We can use the tangent ratio to solve for a missing side of a triangle if we know a certain angle in that triangle.
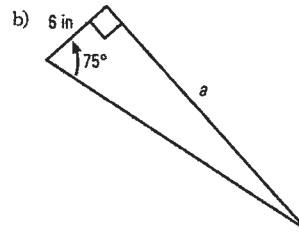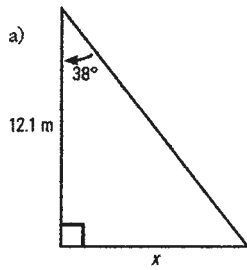
A

The Tangent Ratio

The Short form

We can now also talk about an important way to remember all of our trig ratios.

Example 1
Find the length of the missing sides.

a)

12.1 m, 38°, x

b) 6 in, 75°, a

Example 2
A 1.7-metre tall man stands 12 m from the base of a tree. He views the top of the tree at an angle of elevation of 58°. How tall is the tree?

Example 3
Two buildings are 18.5 metres apart. The angle of elevation from the top of one building to the top of the other is 18°. If the taller building is 15 metres tall, how tall is the shorter building?

Example 4
Which trig ratio would you use to solve the following variables in each of the triangles shown below?

1.5 m, 61°, ℓ

r, 40°, 2 m

8.9 cm, B, 6.2 cm