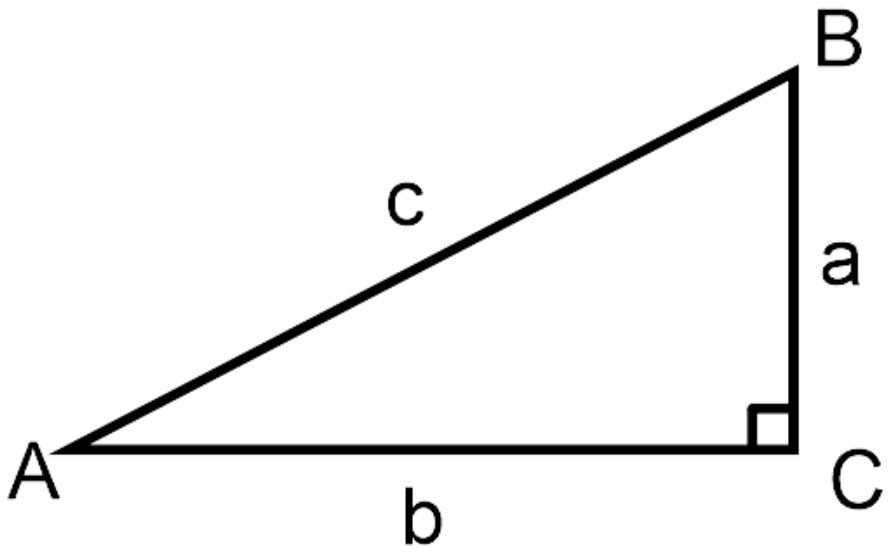
Unit 7 – Trigonometry

The study of the relationships of sides and angles in triangles.

Day 2: Solving for Sides and Angles in Right Triangles

Learning Goal

Setting it Up



Reference Angle: A

$\sin A =$

$\cos A =$

$\tan A =$

Reference Angle: B

$\sin B =$

$\cos B =$

$\tan B =$

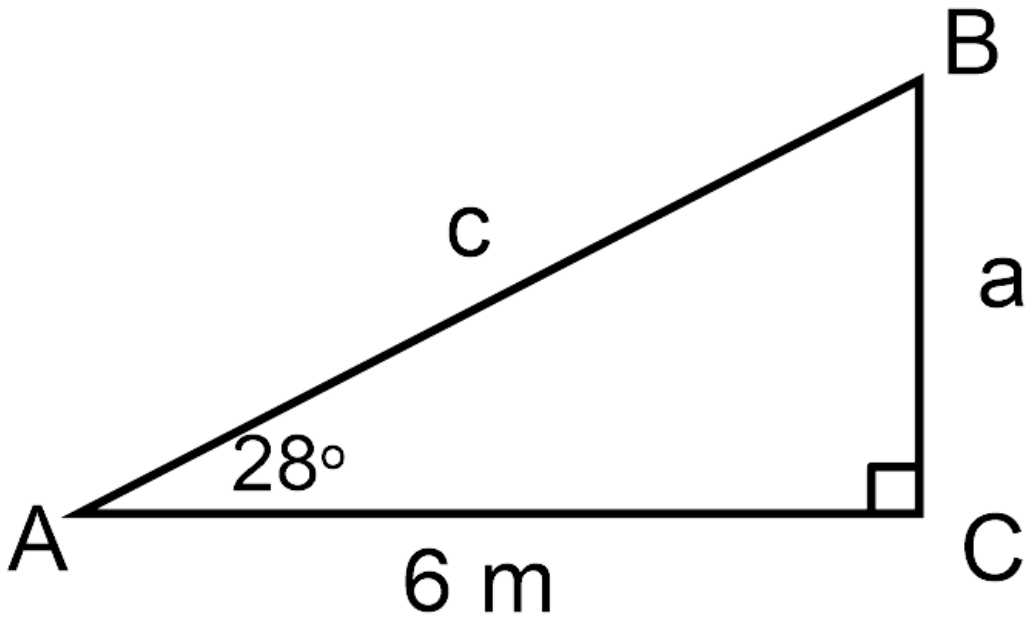
Friendly Reminders

When we are solving trigonometry problems, if we know the value of an angle, we use that angle as our _____ angle.

If we are looking for an angle, the angle we are looking for becomes our _____ angle.

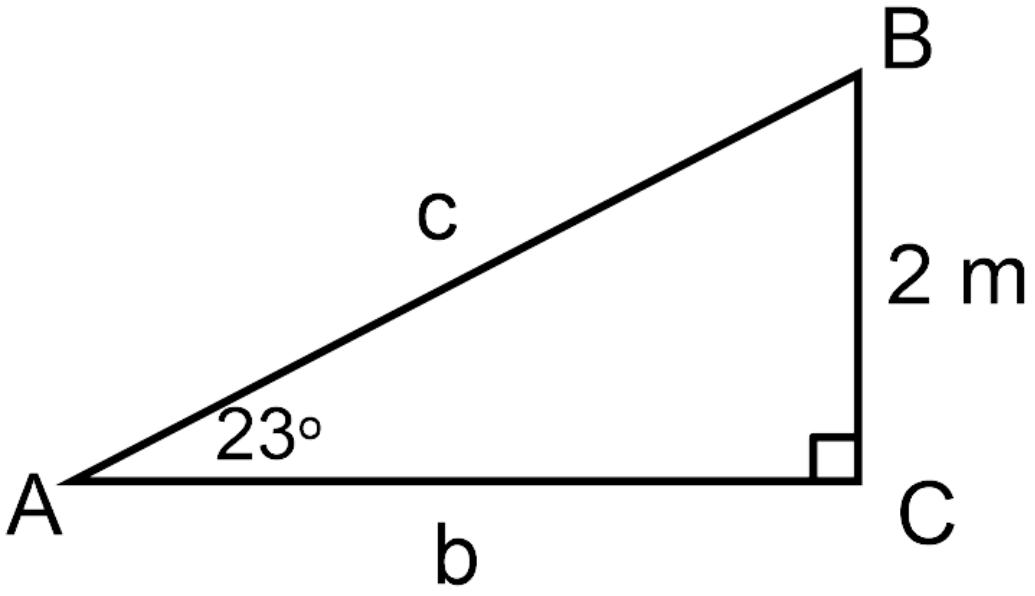
Remember:
sin(angle), cos(angle) and tan(angle) are just numbers! Use your calculator!

Setting it Up



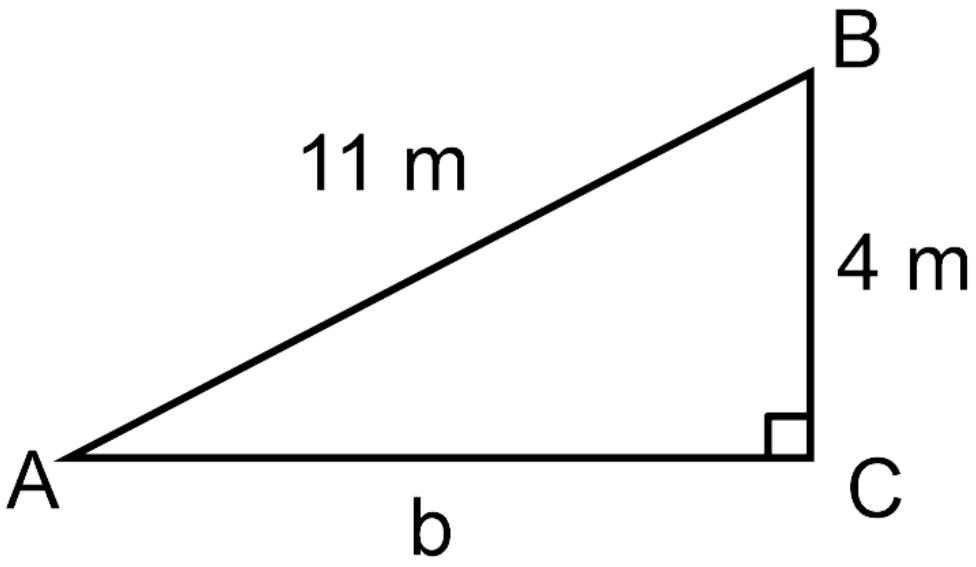
Solve for side a

Setting it Up



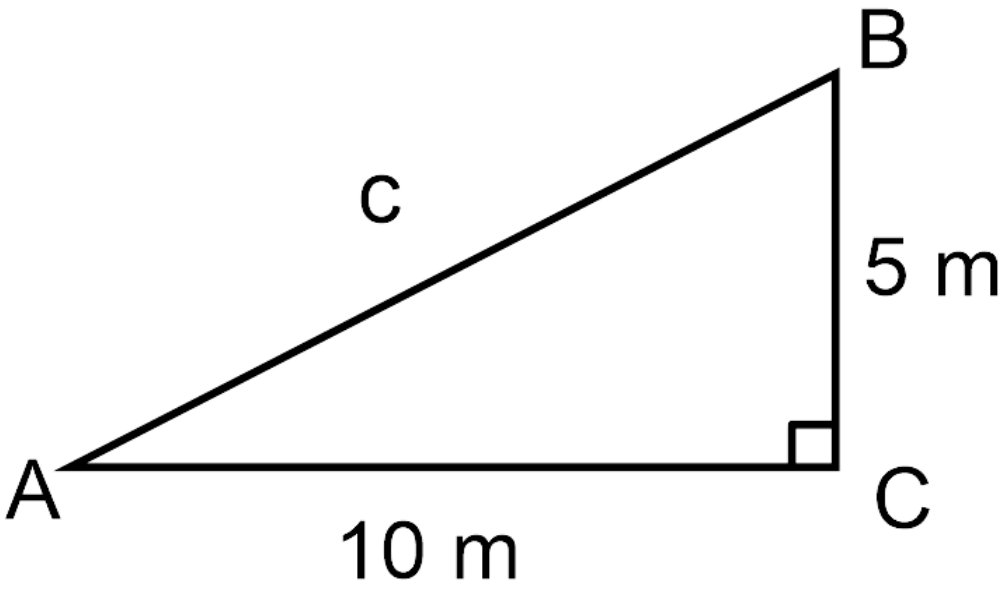
Solve for side c

Setting it Up



Solve for angle A

Setting it Up

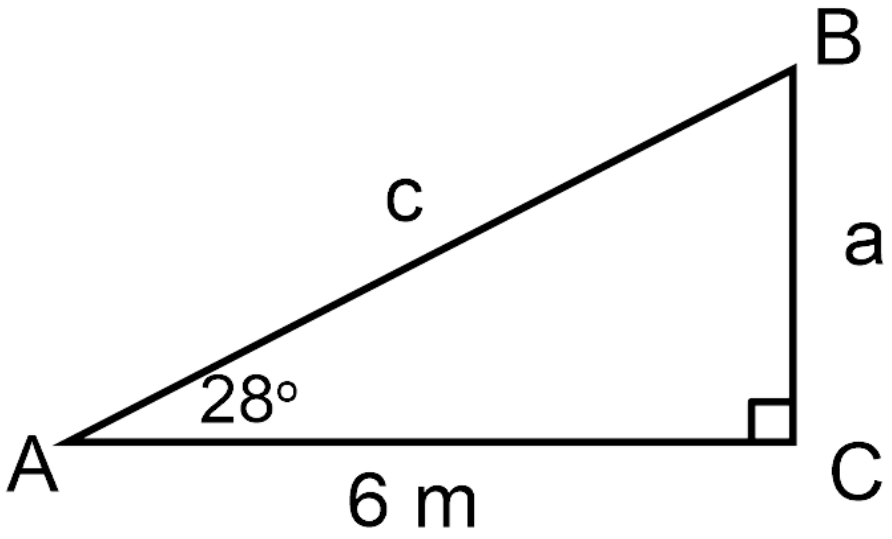


Solve for angle B

Let’s practice setting them up.

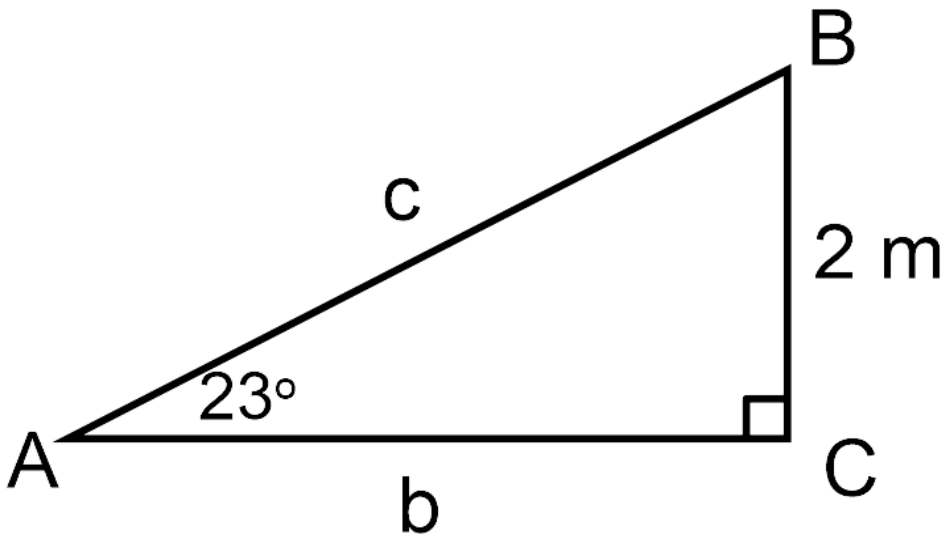
Next, we will knock them down!

Solving for Sides



Solve for side a

Solving for Sides



Solve for side c

Solving for Sides

To solve for a side:

1. Identify your _____ angle.

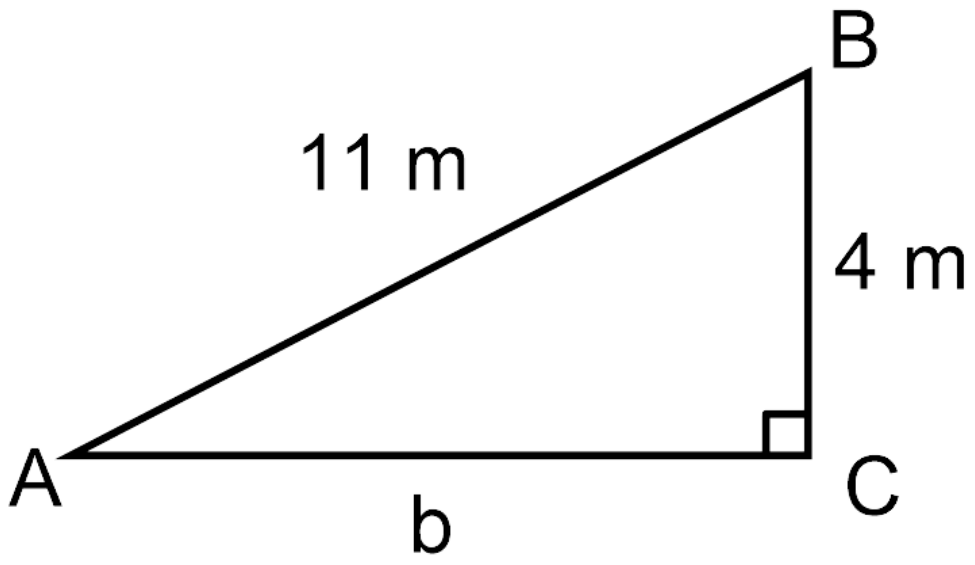
2. Identify the side(s) you know and the side you want. (opp / adj / hyp)

3. Determine if you are going to use _____, _____ or _____.

4. Plug everything in and _____!

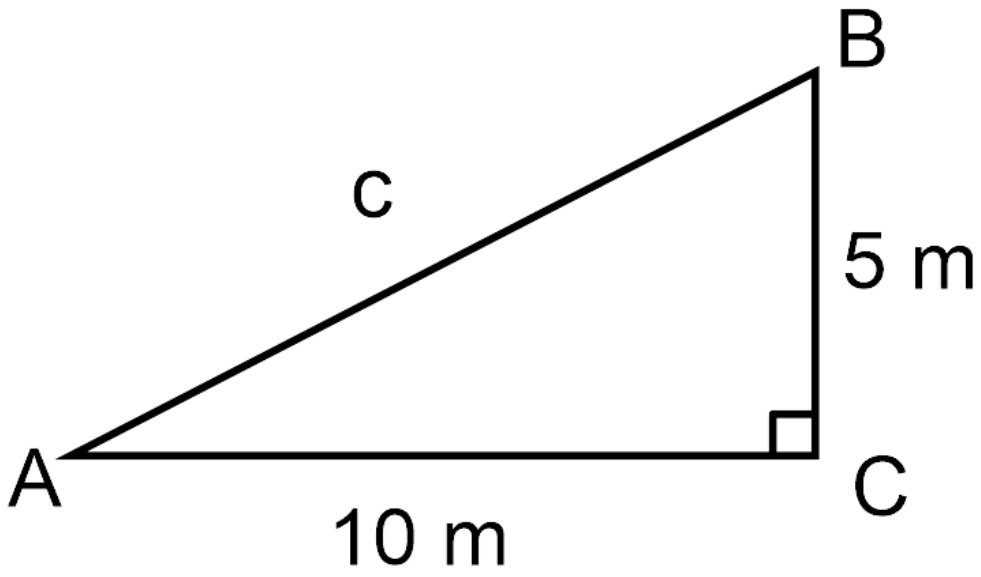
5. You will need to use the _____, _____ or _____ button on your calculator!

Solving for Angles



Solve for angle A

Solving for Angles



Solve for angle B

Solving for Angles

To solve for an angle:

1. Identify the angle you want, this will

become your _____ angle.

2. Identify the sides you know (opp / adj / hyp)

3. Determine if you are going to use _____,

_____ or _____.

4. Plug everything in and _____!

5. You will need to use the _____, _____ or

_____ button on your calculator!

Restrictions

1. What do all of the angles in any triangle add up to?

2. What is the largest angle you can have in a right triangle (other than the right angle)?

3. What side is always the longest in a right triangle?

a

Restrictions

4. What is the largest possible value of the **sin**e of an angle? Why?

5. What is the largest possible value of the **cos**ine of an angle? Why?