

## Unit 5: Triangle Trigonometry

### Day 6: Trig Applications

Today we will...

1. Use strategies to determine when to use SOH-CAH-TOA, Sine Law or Cosine Law to solve triangles.
2. Solve word problems using an appropriate trig method.

When do we use which trig method?

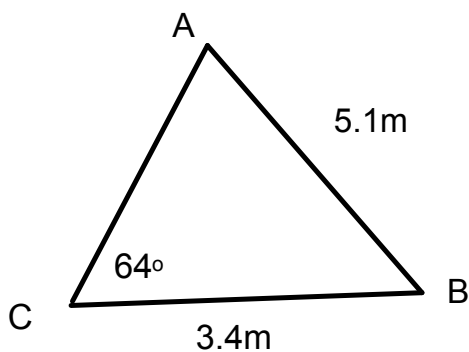
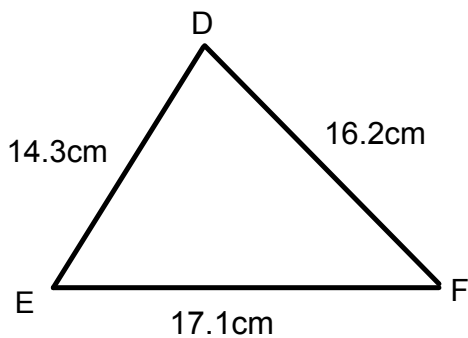
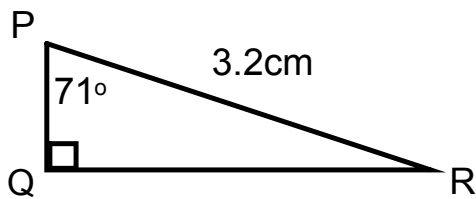
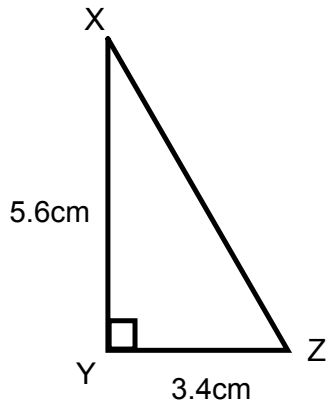
SOH-CAH-TOA:

Sine Law:

Cosine Law:

Sometimes, we can use a combination of Cosine Law and Sine Law!

Determine which trig method you would use solve each of the following triangles:  
 (you don't actually have to solve it, just write down what you would do, including the formula)



## Trigonometry Applications

A man sights a balloon tethered to the ground. The angle of elevation to the balloon is  $66^\circ$ . He moves 30m back from the balloon and the angle of elevation is  $51^\circ$ . How high is the balloon?



Three cell phone towers form a triangle. The distance between the first tower and the second tower is 16km. The distance between the second tower and the third tower is 19km. The distance between the first tower and the third tower is 19km. Calculate the angles between the cell phone towers.

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