Trigonometry

The GOAL

- Find…
- *every* side length and
- *every* angle of a right triangle.

PURPOSE

- This is necessary to solve physics problems in *two dimensions*.
- Out first problem is to pilot robots into the correct locations!

Part A: Pythagorean theorem problems

- A RIGHT TRIANGLE has at least one angle that is 90 degrees.
- The longest side of a right triangle is called the HYPOTENUSE. It is *always* opposite the 90 degree angle.

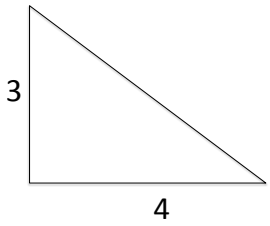
The Pythagorean Theorem

$$a^2 + b^2 = c^2$$

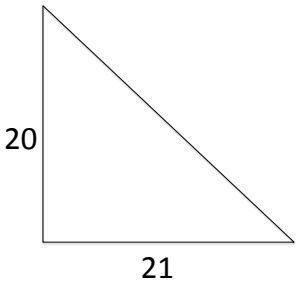
c is the length of the hypotenuse

a and b are the lengths of the two shorter sides.

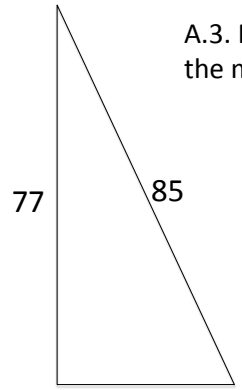
A.1. Find the length of the missing side.



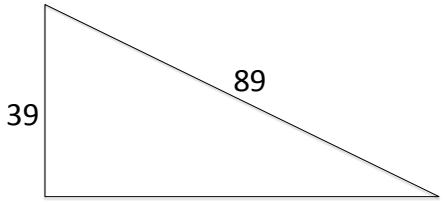
A.2. Find the length of the missing side.



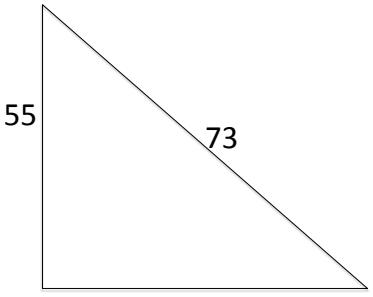
A.3. Find the length of the missing side.



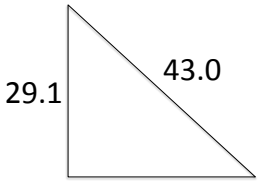
A.4. Find the length of the missing side.



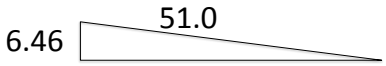
A.5. Find the length of the missing side.



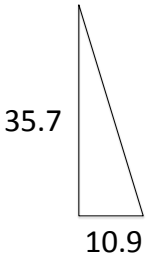
A.6. Find the length of the missing side.



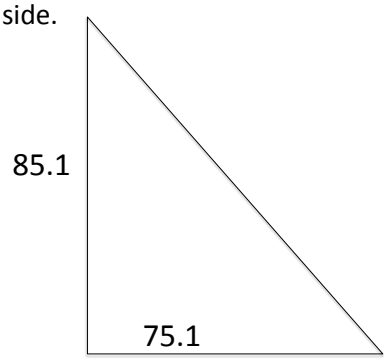
A.7. Find the length of the missing side.



A.8. Find the length of the missing side.



A.9. Find the length of the missing side.



Part B: Finding side lengths from angles