**Trigonometric Ratios**

In a right triangle...

A

B

C

Hypotenuse

Now we will name the two other sides depending on which angle you start from!

From angle A

From angle B

Hypotenuse

A

B

C

Hypotenuse

A

B

C

Opposite

Opposite

Adjacent

Adjacent

We will usually use the abbreviations:

Hypotenuse = H

Opposite = O

Adjacent = A

The trigonometric ratios are:

SOH 🡪 Sin is Opposite over Hypotenuse

sin (angle) =



Sin 42° = 0.669 = 4.683 = x



42°

X

7

CAH 🡪 Cos is Adjacent over Hypotenuse

cos (angle) =



cos 42° = 0.743 = 0.742x = 7



x = 9.42

42°

X

7

TOA 🡪 Tan is Opposite over Adjacent

tan (angle) =



7

X

42°



tan 42° = 0.9 = 0.9x = 7



x = 7.77

If the angle is not know, you must work backwards and use

Sin-1  cos-1  tan-1

tan x = tan x = 0.6 tan-1(0.6) = x



x = 30.9°

cos x = cos x = 0.6 cos-1(0.6) = x



x = 53.1°

Sin x = sin x = 0.6 sin-1(0.6) = x



x = 36.9°

3

5

3

5

3

x

x

x

5