

Little $\angle A = \angle A$ shared
 Big $\angle ADE = \angle ABC$ F-Pattern
 $\angle AED = \angle C$ IATT
 $\therefore \triangle ADE \sim \triangle ABC$ ^{OR} F-Pattern
 Since all angles are equal

$$\frac{4}{10} = \frac{6}{6+x}$$

$$4(6+x) = 6 \times 10$$

$$24 + 4x = 60$$

$$4x = 60 - 24$$

$$4x = 36$$

$$x = \frac{36}{4}$$

$$x = 9 \text{ cm}$$

$$\#19 \quad \frac{162}{72}$$

$$= \frac{81}{36}$$

$$= \frac{9}{4} \quad \text{Ratio of Area}$$

Ratio of sides

$$= \frac{\sqrt{9}}{\sqrt{4}} = \frac{3}{2}$$

7.2 - 7.3 Primary Trig Ratios

For every right angle triangle, there are 3 primary trigonometric ratios:

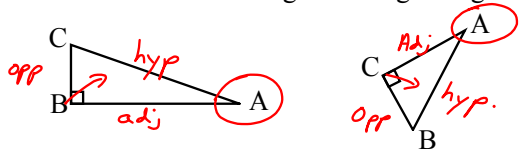
$$\sin \theta = \frac{\text{Opposite}}{\text{Hypotenuse}}$$

$$\cos \theta = \frac{\text{Adjacent}}{\text{Hypotenuse}}$$

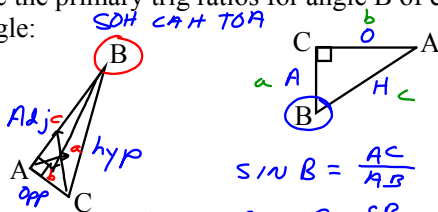
$$\tan \theta = \frac{\text{Opposite}}{\text{Adjacent}}$$

SOH CAH TOA

Name the sides of the triangle looking at angle A.



Write the primary trig ratios for angle B of each triangle:



$$\sin B = \frac{AC}{BC} = \frac{b}{a}$$

$$\cos B = \frac{AB}{BC} = \frac{c}{a}$$

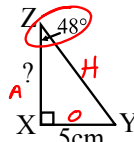
$$\tan B = \frac{AC}{AB} = \frac{b}{c}$$

$$\sin B = \frac{AC}{AB}$$

$$\cos B = \frac{CB}{AB}$$

$$\tan B = \frac{AC}{BC}$$

SOH CAH TOA
Find the indicated side lengths of the triangles.

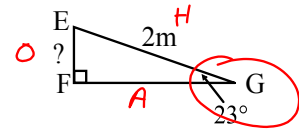


$$\tan 48 = \frac{5}{x}$$

$$5 = \tan 48 x$$

$$\frac{5}{\tan 48} = x$$

$$4.5m = x$$

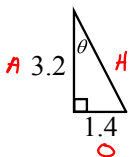


$$\sin 23 = \frac{x}{2}$$

$$2 \times \sin 23 = x$$

$$0.78m = x$$

Determine $\tan \theta$ written as a fraction and a decimal to four decimal places.



$$\tan \theta = \frac{1.4}{3.2} \checkmark$$

$$\tan \theta = \underline{\underline{0.4375}}$$

Determine $\sin \theta$ written as a fraction and a decimal to four decimal places.

$$\sin \theta = \frac{1.4}{3.5} \checkmark$$

$$= 0.4$$

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

$$1.4^2 + 3.2^2 = c^2$$

$$3.5 = c$$

Use a scientific calculator to determine:

$$\sin 37^\circ = 0.6018$$

$$\cos 59^\circ = 0.5150$$

$$\tan 88^\circ = 28.6363$$

In your groups complete two of the following questions...

p. 362 #6a, 7d, p. 373 #10ab, 11ab,

Hwk: p. 362 #7ef, 10, 11
p. 373 #10eg, 11eg, 15