

8-4 Trigonometry

Background Info:

- Trigonometry comes from two Greek terms
 - ▲ trigon - triangle
 - ▲ metron - measure
- Trigonometric ratio - a ratio of the lengths of two sides of a right Δ .
- Δ s with the same \angle measures are similar by AA \sim , so the ratio of their sides are equal.

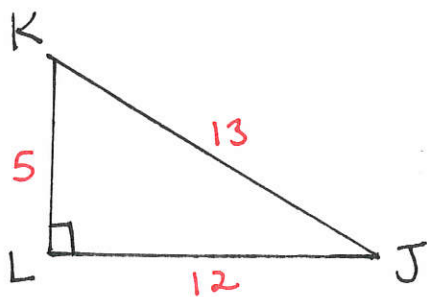
SOH CAH TOA

$$\text{sine} = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\text{cosine} = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\text{tangent} = \frac{\text{opposite}}{\text{adjacent}}$$

Ex: Express each ratio as a fraction and decimal to the hundredths place.



$$\sin K =$$

$$\sin J =$$

$$\cos K =$$

$$\cos J =$$

$$\tan K =$$

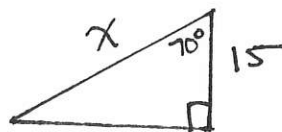
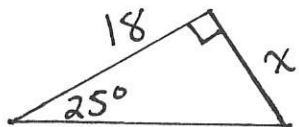
$$\tan J =$$

* never find sin, cos, or tan of the right \angle .

Trigonometric ratios can be used to find missing sides & \angle s in a right Δ .

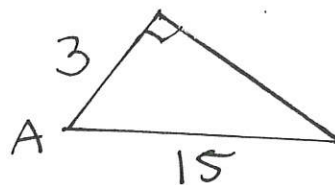
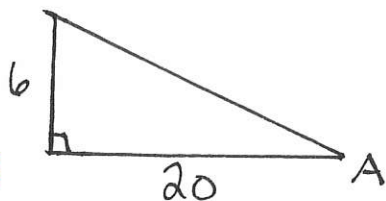
EX: Find x to the nearest hundredth.

sides



EX: Find $m\angle A$ to the nearest tenth.

angles



EX: Solve the right Δ s. Round sides to the nearest tenths & \angle s to degree.

