

Math Options for Next Year...

- Regular Algebra II
- Intro Algebra II
- Pre-Calculus

also think about Computer Science

Learning Goal: Today I will learn about trigonometric ratios.

Success Criteria: I am able to identify opposite, adjacent and hypotenuse and create sin, cos and tan ratios. I can solve for an unknown side.

8.3 Trigonometry

What is Trigonometry?

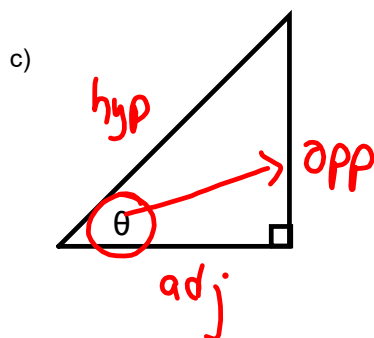
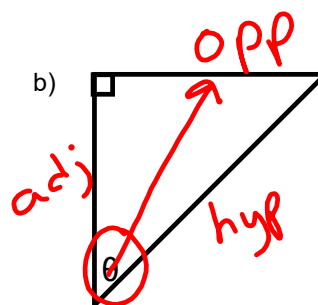
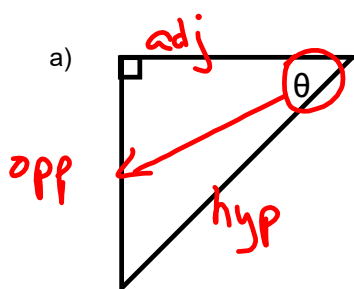
Triangle
measurement

Indirect measurement

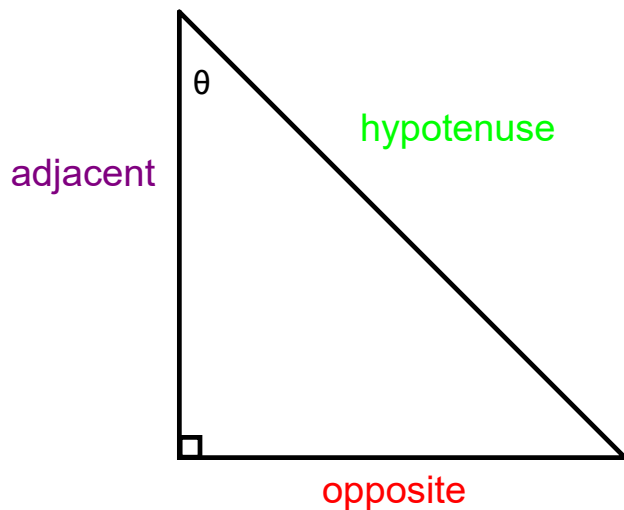
Angle and side ratios

Trigonometry

Label each side as hypotenuse (hyp), opposite (opp), or adjacent (adj)



Trigonometry



$$\text{sine } (\theta) = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\text{cosine } (\theta) = \frac{\text{adjacent}}{\text{hypotenuse}}$$

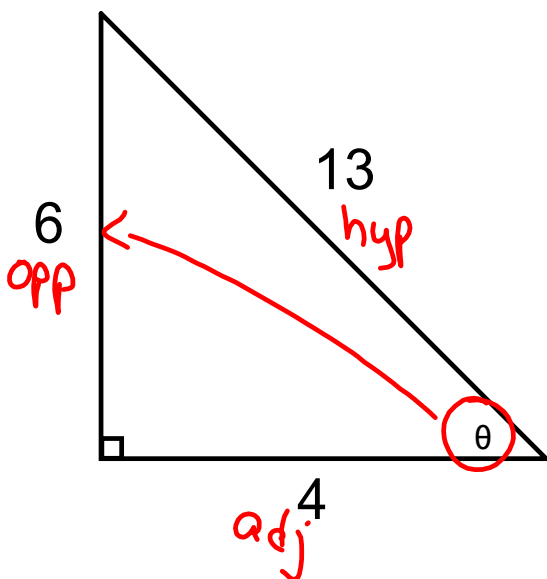
$$\text{tangent } (\theta) = \frac{\text{opposite}}{\text{adjacent}}$$

SOH CAH TOA

Trigonometry

SOH CAH TOA

Label each side and write the trig ratios using numbers.



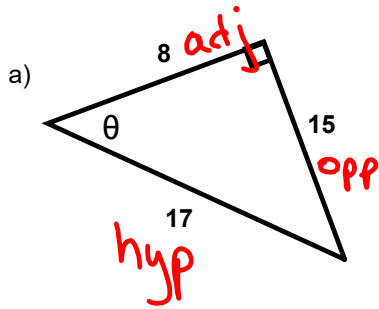
$$\sin(\theta) = \frac{6}{13}$$

$$\cos(\theta) = \frac{4}{13}$$

$$\tan(\theta) = \frac{6}{4} = \frac{3}{2}$$

Trigonometry

Write ratios for $\sin\theta$, $\cos\theta$, and $\tan\theta$

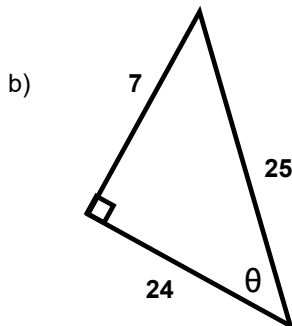


SOH CAH TOA

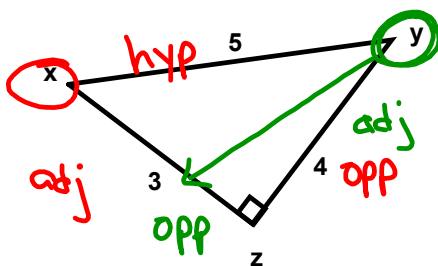
$$\sin\theta = \frac{15}{17}$$

$$\cos\theta = \frac{8}{17}$$

$$\tan\theta = \frac{15}{8}$$



SOH CAH TOA



$$\sin x = \frac{4}{5}$$

$$\tan x = \frac{4}{3}$$

$$\cos y = \frac{4}{5}$$

$$\sin y = \frac{3}{5}$$

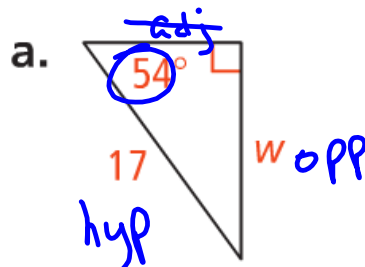
$$\cos x = \frac{3}{5}$$

$$\tan y = \frac{3}{4}$$

Trigonometry SOH CAH TOA

Find the value of w to the nearest tenth.

1. Label hyp, opp, adj
2. Determine which trig ratio to use
3. Set up ratio
4. Cross multiply and solve



$$\sin 54 = \frac{w}{17}$$

$$17 \sin 54 = w$$

$$13.8 = w$$

Trigonometry

Find the value of w to the nearest tenth.

1. Label hyp, opp, adj
2. Determine which trig ratio to use
3. Set up ratio
4. Cross multiply and solve

