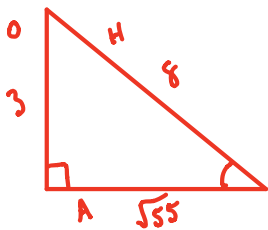


Unit 2 Quiz Review: Triangle Trig (Days 1 & 2)

Key

1. A triangle has an acute angle such that  $\sin \theta = \frac{3}{8}$ . Find the other five trigonometric ratios.



$$\cos \theta = \frac{\sqrt{55}}{8}$$

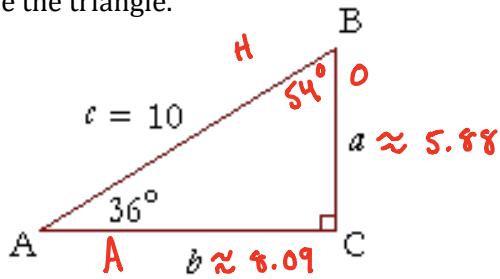
$$\csc \theta = \frac{8}{3}$$

$$\cot \theta = \frac{\sqrt{55}}{3}$$

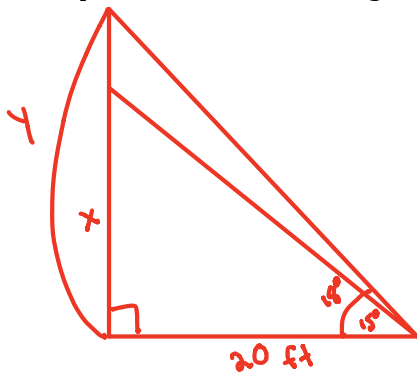
$$\tan \theta = \frac{3\sqrt{55}}{55}$$

$$\sec \theta = \frac{8\sqrt{55}}{55}$$

2. Solve the triangle.



3. John is standing 20 feet from a tree. The angle of elevation to the top of the tree is  $15^\circ$ . There is a tree house on top of the tree and the angle of elevation to the top of the tree house is  $18^\circ$ . How tall is the tree house?



$$\tan 15 = \frac{x}{20}$$

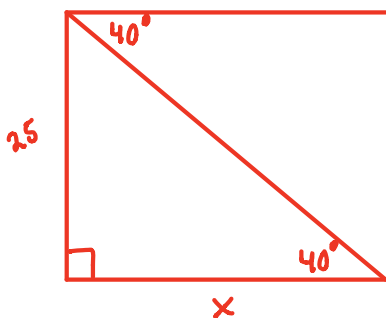
$$\tan 18 = \frac{y}{20}$$

$$x \approx 5.36$$

$$y \approx 6.5$$

$$6.5 - 5.36 = 1.14 \text{ ft.}$$

4. From the top of a barn 25 feet tall, you see a cat on the ground. The angle of depression of the cat is  $40^\circ$ . How many feet, to the nearest foot, must the cat walk to reach the barn?



$$\tan 40^\circ = \frac{25}{x}$$

$$x \approx 29.79 \text{ ft.}$$