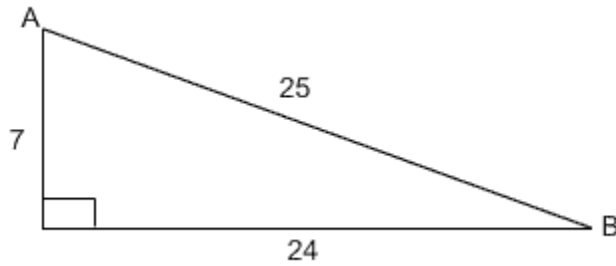


**Geometry**  
**Unit: Right Triangles and Trigonometry**  
**Section: Ratios of Right Triangles**

**Review Worksheet KEY**

1) Find the sine, cosine, tangent, cosecant, secant and cotangent of both angle A and angle B in the right triangle below.



$$\sin A = \frac{24}{25}$$

$$\cos A = \frac{7}{25}$$

$$\tan A = \frac{24}{7}$$

$$\csc A = \frac{25}{24}$$

$$\sec A = \frac{25}{7}$$

$$\cot A = \frac{7}{24}$$

$$\sin B = \frac{7}{25}$$

$$\cos B = \frac{24}{25}$$

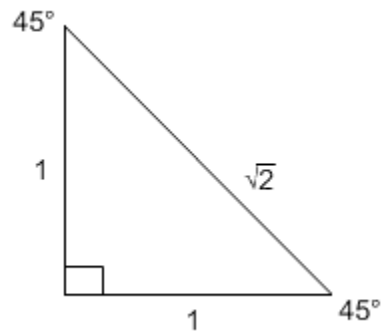
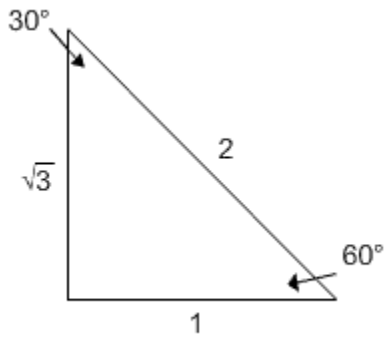
$$\tan B = \frac{7}{24}$$

$$\csc B = \frac{25}{7}$$

$$\sec B = \frac{25}{24}$$

$$\cot B = \frac{24}{7}$$

2) Draw the 30°-60°-90° Special Right Triangle and the 45°-45°-90° Special Right Triangle and then find the sine, cosine and tangent of 30°, 60°, and 45°.



$$\sin 30^\circ = \frac{1}{2}$$

$$\cos 30^\circ = \frac{\sqrt{3}}{2}$$

$$\tan 30^\circ = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$$\sin 60^\circ = \frac{\sqrt{3}}{2}$$

$$\cos 60^\circ = \frac{1}{2}$$

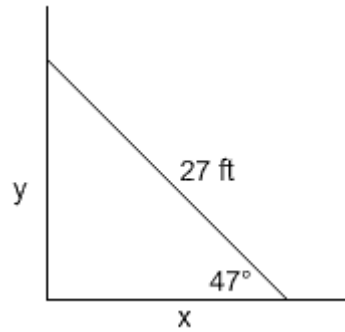
$$\tan 60^\circ = \frac{\sqrt{3}}{1} = \sqrt{3}$$

$$\sin 45^\circ = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$\cos 45^\circ = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$\tan 45^\circ = \frac{1}{1} = 1$$

3) A 27 ft ladder leans against a wall at an angle of elevation of  $47^\circ$ . How high off the ground does the top of the ladder touch the wall? How far away from the wall is the base of the ladder?



$$\sin 47^\circ = \frac{y}{27}$$

$$27 \cdot \sin 47^\circ = y$$

$$19.75 \approx y$$

The top of the ladder is approximately 19.75 ft off the ground.

$$\cos 47^\circ = \frac{x}{27}$$

$$27 \cdot \cos 47^\circ = x$$

$$18.41 \approx x$$

The base of the ladder is approximately 18.41 ft away from the wall.