

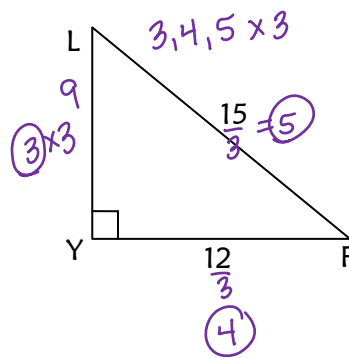
8.2 Homework Day 2

Name Key

Learning Target 8.2.a.: Write trigonometric ratios for a right triangle.

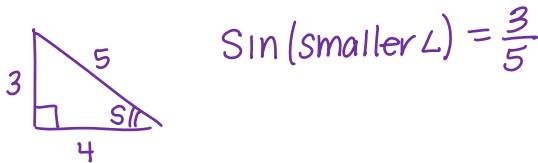
Directions: Write the ratio of the sides. Leave your answers as a reduced fraction.

1) $\sin \angle F = \frac{3}{5}$
 $\cos \angle F = \frac{4}{5}$
 $\tan \angle F = \frac{3}{4}$



2) $\sin \angle L = \frac{4}{5}$
 $\cos \angle L = \frac{3}{5}$
 $\tan \angle L = \frac{4}{3}$

3) Find the sine of the smaller acute angle in a triangle with side lengths of 3, 4, and 5 inches.

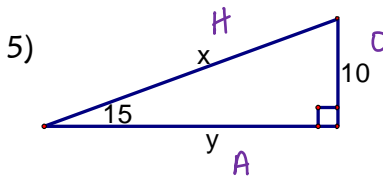


4) Find the tangent of the greater acute angle in a triangle with side lengths of 7, 24, and 25 cm.

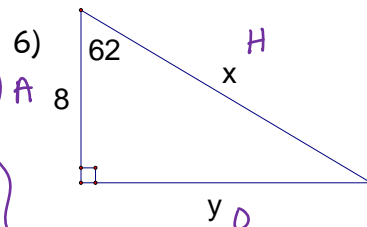


Learning Target 8.2.c.: Use trigonometric ratios to find side lengths of a right triangle.

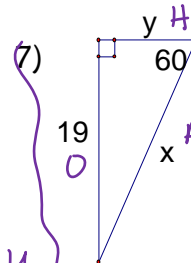
Directions: For 3-5, find the length of sides **x** and **y**. Round your answers to the nearest hundredth.



$\frac{\sin(15)}{1} = \frac{10}{x} \Rightarrow x \approx 38.64$
 $\frac{\tan(15)}{1} = \frac{10}{y} \Rightarrow y \approx 37.32$

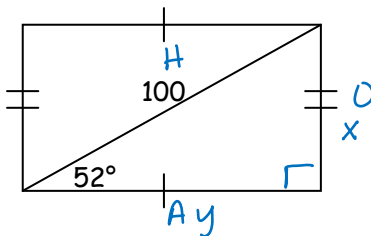


$\frac{\cos(62)}{1} = \frac{8}{y} \Rightarrow y \approx 17.04$
 $\frac{\tan(62)}{1} = \frac{y}{8} \Rightarrow y \approx 15.05$



$\frac{\tan(60)}{1} = \frac{19}{x} \Rightarrow x \approx 10.97$
 $\frac{\sin(60)}{1} = \frac{19}{y} \Rightarrow y \approx 21.94$

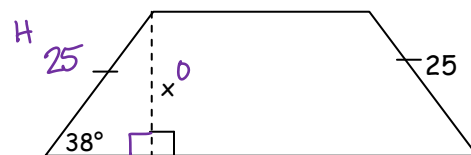
8) Find the perimeter of the rectangle.



$P = 2(78.80) + 2(61.57) = 280.74$

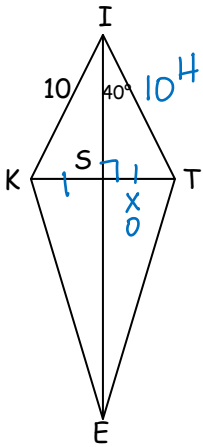
$\frac{\sin(52)}{1} = \frac{x}{100} \Rightarrow x \approx 78.80$
 $\frac{\cos(52)}{1} = \frac{y}{100} \Rightarrow y \approx 61.57$

9) Find the height, **x**, in the isosceles trapezoid.



$\frac{\sin(38)}{1} = \frac{x}{25} \Rightarrow x \approx 15.39$

10) Given that KITE is a kite with $\overline{KI} \cong \overline{IT}$ find KT.



$$\frac{\sin(40)}{1} = \frac{x}{10}$$

$$x = 10 \cdot \sin(40)$$

$$x \approx 6.43$$

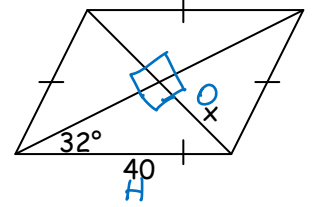
If $ST \approx 6.43$, then $KT \approx 2(6.43)$.

$$\boxed{KT \approx 12.86}$$

11) What is the name of the quadrilateral below?

rhombus

Find the value of x.

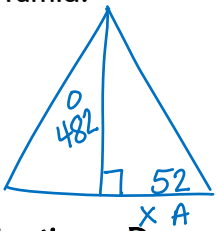


$$\frac{\sin(32)}{1} = \frac{x}{40}$$

$$x = 40 \cdot \sin(32)$$

$$\boxed{x \approx 21.20}$$

12) The Great Pyramid of Cheops in Giza, Egypt was completed around 2566 B.C.E. Its original height was 482 ft. Each face of the pyramid forms a 52 angle with the ground. To the nearest foot, how long is the base of the pyramid?



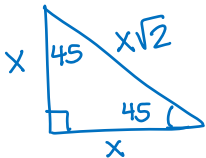
$$\frac{\tan(52)}{1} = \frac{482}{x}$$

$$x \cdot \tan(52) = \frac{482}{\tan(52)}$$

$$x \approx 376.58 \text{ so base is } 2(376.58) = 753.16$$

$$\boxed{753 \text{ ft long}}$$

Directions: Draw a 45°-45°-90° triangle. Then, fill in the ratio of the sides. Use this triangle to help you answer the questions below.

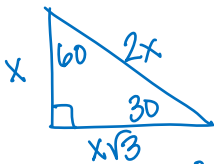


13) An angle that measures 45° has a tangent of 1.

$$\frac{x}{x} = 1 \quad \tan \frac{O}{A}$$

14) For the 45 angle, the Sine and Cosine ratios are equal.

Directions: Draw a 30°-60°-90° triangle. Then, fill in the ratio of the sides. Use this triangle to help you answer the questions below.



15) The sine of a 30° angle is 0.5.

$$\sin \frac{O}{H} \rightarrow \frac{x}{2x} = \frac{1}{2}$$

16) The cosine of a 30 angle is equal to the sine of a 60° angle.

$$\cos(30) = \frac{x\sqrt{3}}{2x}$$

$$\sin(60) = \frac{x\sqrt{3}}{2x}$$

Self-Reflection:

17) Which target are you struggling with?

18) What are you going to do to better understand this target?