

Name: KEY Hour: _____ Date: _____

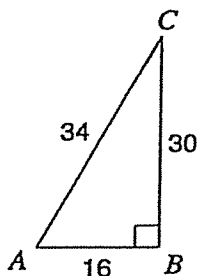
SOH CAHTOA

Trig Ratios Practice

(reduce)

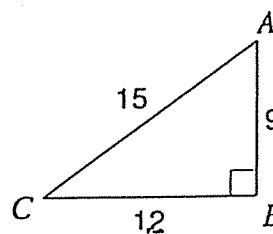
Write the given trig ratios for each of the following triangles. If necessary, simplify your results.

1)



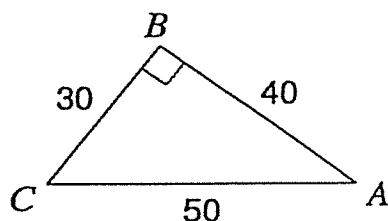
$$\begin{aligned}\sin A &= \frac{30}{34} = \frac{15}{17} & \sin C &= \frac{16}{34} = \frac{8}{17} \\ \cos A &= \frac{16}{34} = \frac{8}{17} & \cos C &= \frac{30}{34} = \frac{15}{17} \\ \tan A &= \frac{30}{16} = \frac{15}{8} & \tan C &= \frac{16}{30} = \frac{8}{15}\end{aligned}$$

2)



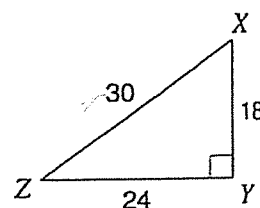
$$\begin{aligned}\sin A &= \frac{12}{15} = \frac{4}{5} & \sin C &= \frac{9}{15} = \frac{3}{5} \\ \cos A &= \frac{9}{15} = \frac{3}{5} & \cos C &= \frac{12}{15} = \frac{4}{5} \\ \tan A &= \frac{12}{9} = \frac{4}{3} & \tan C &= \frac{9}{12} = \frac{3}{4}\end{aligned}$$

3)



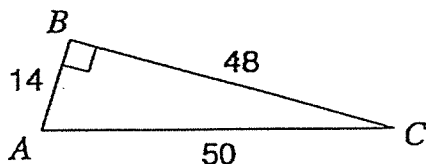
$$\begin{aligned}\sin A &= \frac{30}{50} = \frac{3}{5} & \sin C &= \frac{40}{50} = \frac{4}{5} \\ \cos A &= \frac{40}{50} = \frac{4}{5} & \cos C &= \frac{30}{50} = \frac{3}{5} \\ \tan A &= \frac{30}{40} = \frac{3}{4} & \tan C &= \frac{40}{30} = \frac{4}{3}\end{aligned}$$

4)



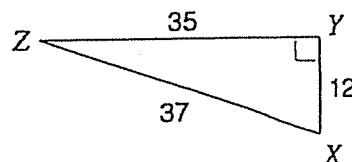
$$\begin{aligned}\sin X &= \frac{24}{30} = \frac{4}{5} & \sin Z &= \frac{18}{30} = \frac{3}{5} \\ \cos X &= \frac{18}{30} = \frac{3}{5} & \cos Z &= \frac{24}{30} = \frac{4}{5} \\ \tan X &= \frac{24}{18} = \frac{4}{3} & \tan Z &= \frac{18}{24} = \frac{3}{4}\end{aligned}$$

5)



$$\begin{aligned}\sin A &= \frac{48}{50} = \frac{24}{25} & \sin C &= \frac{14}{50} = \frac{7}{25} \\ \cos A &= \frac{14}{50} = \frac{7}{25} & \cos C &= \frac{48}{50} = \frac{24}{25} \\ \tan A &= \frac{48}{14} = \frac{24}{7} & \tan C &= \frac{14}{48} = \frac{7}{24}\end{aligned}$$

6)



$$\begin{aligned}\sin X &= \frac{35}{37} & \sin Z &= \frac{12}{37} \\ \cos X &= \frac{12}{37} & \cos Z &= \frac{35}{37} \\ \tan X &= \frac{35}{12} & \tan Z &= \frac{12}{35}\end{aligned}$$

DIRECTIONS: Convert the following degree measures into radian measures.

$$1. -300^\circ \cdot \frac{\pi}{180} = \frac{300\pi}{180}$$

$$\frac{5\pi}{3}$$

$$2. 150^\circ \cdot \frac{\pi}{180} = \frac{150\pi}{180}$$

$$\frac{5\pi}{6}$$

$$3. -90^\circ \cdot \frac{\pi}{180}$$

$$\frac{90\pi}{180}$$

$$\frac{\pi}{2}$$

DIRECTIONS: Convert the following radian measures into degree measures.

$$7. 3\pi \text{ radians} \cdot \frac{180}{\pi}$$

$$60^\circ$$

$$8. \frac{11\pi}{10} \text{ radians} \cdot \frac{180}{\pi}$$

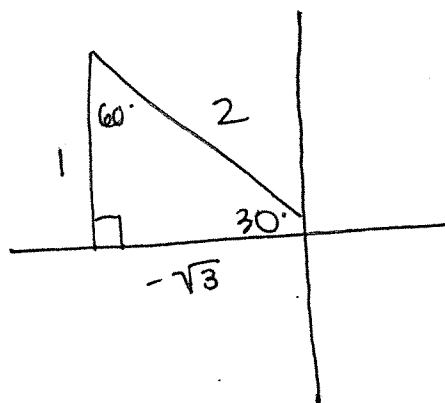
$$198^\circ$$

$$9. -\frac{2\pi}{3} \text{ radians} \cdot \frac{180}{\pi}$$

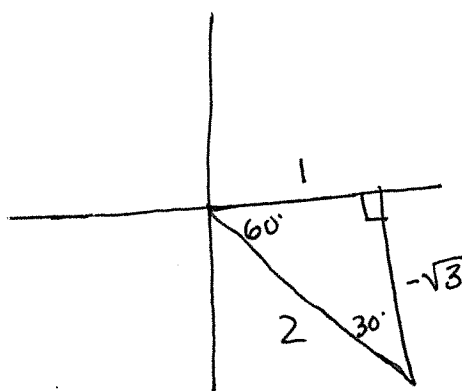
$$-120^\circ$$

DIRECTIONS: Sketch and label the reference triangle for the following angles.

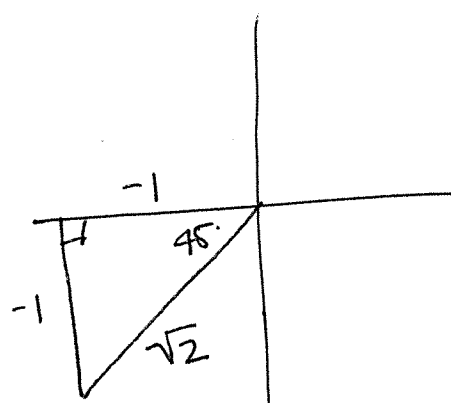
10) 150°



11) 300°



12) 225°



13) -210°

14) -315°

15) -60°

SKIP