

*AAT

Name: Key
Date: _____ Period: _____

Chapter 6: Quiz Review 6.1-6.4

1. If the angle 75° is in standard position, find two positive coterminal angles and two negative coterminal angles.

$$1(360) + 75 = 435^\circ \quad 75 - 1(360) = -285^\circ$$

$$2(360) + 75 = 795^\circ \quad 75 - 2(360) = -645^\circ$$

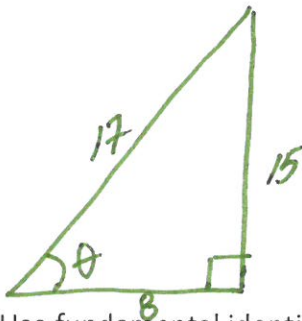
2. Find the degree measure of the angle $\frac{17\pi}{4} \cdot \frac{180}{\pi} = 765^\circ$

3. Express the angle as a decimal to the nearest ten-thousandth of a degree.

$53^\circ 57'$

53.9500°

4. Find the values of the five other trig functions for the acute angle θ if $\tan \theta = \frac{15}{8}$.



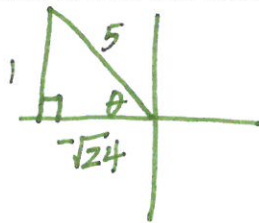
$$\sin \theta = \frac{15}{17} \quad \csc \theta = \frac{17}{15}$$

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

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

5. Use fundamental identities to find the values of the trig functions for the given conditions.

$\csc \theta = 5$ and $\cot \theta < 0$.



$\therefore \sin \theta = \frac{1}{5}$
 $1^2 + x^2 = 5^2$
 $x = \pm \sqrt{24} \text{ or } \pm 2\sqrt{6}$

$$\sin \theta = \frac{1}{5} \quad \csc \theta = 5$$

$$\cos \theta = \frac{-\sqrt{24}}{5} \quad \sec \theta = \frac{5}{-\sqrt{24}}$$

$$\tan \theta = \frac{1}{-\sqrt{24}} \quad \cot \theta = -\sqrt{24}$$

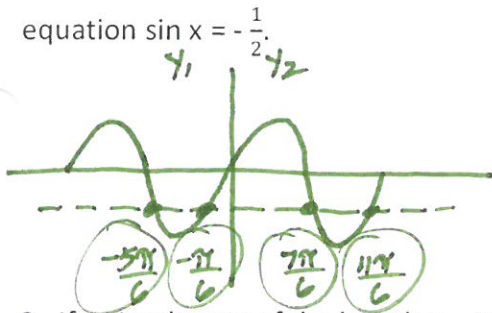
6. A point $P(\frac{-12}{13}, \frac{5}{13})$ is on the unit circle. Find the value of the secant.

$\frac{1}{\cos \theta} = \frac{1}{-\frac{12}{13}} = \frac{-13}{12}$

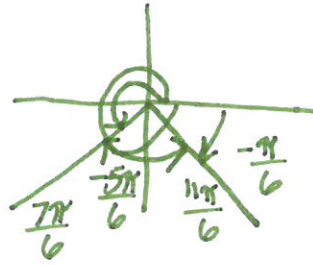
7. Find y by referring to the graph of the trig function.

As $x \rightarrow \pi^-$, $\cos x \rightarrow -1$.

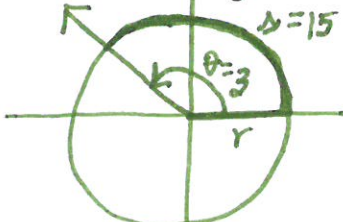
8. Refer to the graph of $y = \sin x$ find the separate values of x in the interval $[-2\pi, 2\pi]$ that satisfy the equation $\sin x = -\frac{1}{2}$.



- or -



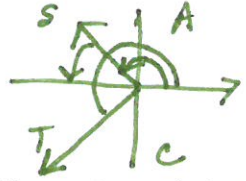
9. If a circular arc of the length $s = 15$ cm subtends the central angle $\theta = 3$ on a circle, find the radius of the circle.



$$s = r \cdot \theta$$

$$\frac{15}{3} = \frac{r \cdot (3)}{3} \quad \Rightarrow \quad 5 = r$$

10. Approximate to the nearest 0.1° all angles θ in the interval $[0^\circ, 360^\circ]$ that satisfy $\cos \theta = -0.6604$.



2nd Q $\theta = 131.3^\circ$
 3rd Q $\theta = 180 + 48.7 = 228.7^\circ$
 $\theta_{Ref} = 180 - 131.3 = 48.7$

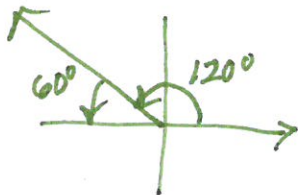
cos theta in 2nd & 3rd Quad

11. Approximate the acute angle $\tan \theta = 3.45$ to the nearest 0.01° .

$$\tan^{-1}(3.45) = 73.84^\circ$$

12. Find the reference angle if $\theta = \frac{2\pi}{3} \cdot \frac{180}{\pi}$

$$= 120^\circ$$



$$\theta_R = 60^\circ = \frac{\pi}{3}$$