

Name Key

## Unit 2 Quiz Review

Change each degree measure to radian measure in terms of  $\pi$ .

1.  $36^\circ \left(\frac{\pi}{180}\right) = \frac{\pi}{5}$

3.  $870^\circ \left(\frac{\pi}{180}\right) = \frac{29\pi}{6}$

2.  $-145^\circ \left(\frac{\pi}{180}\right) = -\frac{29\pi}{36}$

4.  $-820^\circ \left(\frac{\pi}{180}\right) = -\frac{41\pi}{9}$

Change each radian measure to degree measure.

5.  $-1 \left(\frac{180}{\pi}\right) = -\frac{180}{\pi} \approx -57.3^\circ$

7.  $\frac{3\pi}{16} \left(\frac{180}{\pi}\right) = 33.75^\circ$

6.  $-2.56 \left(\frac{180}{\pi}\right) = \frac{2304}{5\pi} \approx 146.48^\circ$

8.  $\frac{13\pi}{30} \left(\frac{180}{\pi}\right) = 78^\circ$

Find one positive angle and one negative angle that is coterminal with each angle. Answers should remain in the same unit as the given angle.

9.  $70^\circ \pm 360^\circ$   
 $430^\circ, -290^\circ$

10.  $-300^\circ \pm 360^\circ$   
 $60^\circ, -660^\circ$

11.  $\frac{-2\pi}{7} \pm 2\pi$   $\frac{14\pi}{7}$   
 $\frac{12\pi}{7}, -\frac{16\pi}{7}$

12.  $\frac{3\pi}{5} \pm 2\pi$   $\frac{10\pi}{5}$   
 $\frac{13\pi}{5}, -\frac{7\pi}{5}$

Given the radian measure of a central angle, find the measure of its intercepted arc in terms of  $\pi$  in a circle of radius 10 cm. Then find the sector area.

13.  $\frac{\pi}{6}$

$\frac{\pi}{6} \cdot \frac{1}{2\pi} = \frac{1}{12}$

$S = 10 \left(\frac{\pi}{6}\right) = \frac{10\pi}{6} = \boxed{\frac{5\pi}{3} \text{ cm}}$

$A = \pi(10)^2 \left(\frac{\pi/6}{2\pi}\right)$   
 $= 100\pi \left(\frac{1}{12}\right) = \boxed{\frac{25\pi}{3} \text{ cm}^2}$

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

$\frac{3\pi}{5} \cdot \frac{1}{2\pi} = \frac{3}{10}$

$S = 10 \left(\frac{3\pi}{5}\right) = \frac{30\pi}{5} = \boxed{6\pi}$

$A = \pi(10)^2 \left(\frac{3\pi/5}{2\pi}\right)$   
 $= 100\pi \left(\frac{3}{10}\right) = \boxed{30\pi}$



$$r = 30$$

Given the degree measurement of a central angle, find the measure of its intercepted arc in terms of  $\pi$  in a circle of diameter 60 in. Then find the sector area.

$$15. 20^\circ \quad S = 2\pi(30) \left( \frac{20}{360} \right) = \boxed{\frac{10\pi}{3}}$$

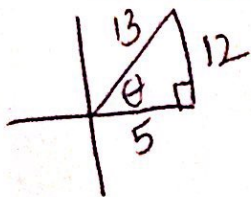
$$A = \pi(30)^2 \left( \frac{20}{360} \right) = \boxed{50\pi}$$

$$16. 150^\circ \quad S = 2\pi(30) \left( \frac{150}{360} \right) = \boxed{25\pi}$$

$$A = \pi(30)^2 \left( \frac{150}{360} \right) = \boxed{375\pi}$$

Find the missing trig functions. Draw a reference triangle to start.

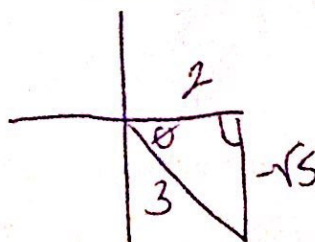
$$17. \text{ Given } \sin\theta = \frac{12}{13}, \theta \text{ is in Quadrant I}$$



$$\cos\theta = 5/13$$

$$\tan\theta = 12/5$$

$$18. \text{ Given } \cos\theta = \frac{2}{3}, \theta \text{ is in Quadrant IV.}$$



$$9^2 = 2^2 + b^2$$

$$\sin\theta = \frac{-\sqrt{5}}{3}$$

$$\tan\theta = \frac{-\sqrt{5}}{2}$$

$$19. \text{ Given } \tan\theta = 3, \theta \text{ is in Quadrant III}$$



$$3^2 + 1^2 = c^2$$

$$\sin\theta = \frac{-3}{\sqrt{10}} = \boxed{\frac{-3\sqrt{10}}{10}}$$

$$\cos\theta = \frac{-1}{\sqrt{10}} = \boxed{\frac{-\sqrt{10}}{10}}$$

Find the exact values for the following using your unit circle.

$$20. \sin(150^\circ) = \frac{1}{2}$$

$$21. \cos\frac{7\pi}{6} = -\sqrt{3}/2$$

$$22. \sin\frac{5\pi}{6} = \frac{1}{2}$$

$$23. \cos(-135^\circ) = -\sqrt{2}/2$$

$$24. \tan\frac{7\pi}{6} = \sqrt{3}/3$$

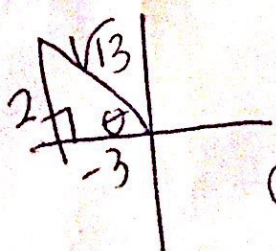
$$25. \tan(135^\circ) = -1$$

$$26. \sin\left(-\frac{\pi}{3}\right) = -\sqrt{3}/2$$

$$27. \cos(-120^\circ) = -\frac{1}{2}$$

Given the point P on the terminal side of a triangle, find the three trig functions. Exact answers only.

$$28. (-3, 2) \quad 3^2 + 2^2 = c^2$$

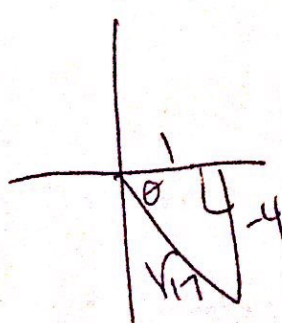


$$\sin\theta = \frac{2}{\sqrt{13}} = \frac{2\sqrt{13}}{13}$$

$$\cos\theta = \frac{-3}{\sqrt{13}} = \frac{-3\sqrt{13}}{13}$$

$$\tan\theta = -2/3$$

$$29. (1, -4) \quad 1^2 + 4^2 = c^2$$



$$\sin\theta = \frac{-4}{\sqrt{17}} = \frac{-4\sqrt{17}}{17}$$

$$\cos\theta = \frac{1}{\sqrt{17}} = \frac{\sqrt{17}}{17}$$

$$\tan\theta = -4$$