

Unit Circle Practice and Review

Unit Circle Practice:

1) Change the following degree measures to radians. Use exact values.

a. 120°

b. -225°

c. 80°

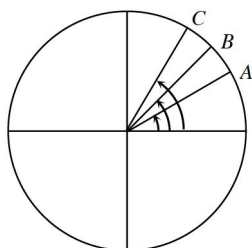
2) Sketch a graph of the unit circle with the angles specified below and identify a coterminal angle to the given angle.

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

b. $\frac{3\pi}{4}$

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

3) Using the unit circle below, estimate the radian measure for the angles shown.



4) Convert the following radian measures to degrees.

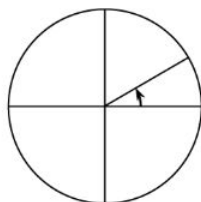
a. $\frac{4\pi}{3}$

b. $\frac{18\pi}{5}$

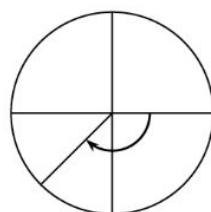
c. 4 radians

5) Below are two of the special angles that are used in the unit circle. Identify the radian measure for the angles shown. Remember counterclockwise angles are positive and clockwise angles are negative.

a.



b.



Review:

1) Let $f(x) = \begin{cases} -x + 5 & \text{for } x < -2 \\ (x - 1)^2 - 2 & \text{for } -2 \leq x < 3 \\ -x + 5 & \text{for } x \geq 3 \end{cases}$ Evaluate,

a. $f(3)$

b. $f(-3)$

c. $f(-2)$

d. $f(4)$

2) Solve for y: $5x + 2y = ky + 9$

3) Simplify each expression.

a. $5\sqrt{2} + 3\sqrt{7} - 2\sqrt{2} + 4\sqrt{7}$

b. $4\sqrt[3]{2} + 5\sqrt{2} - 7\sqrt[3]{2} + \sqrt{2}$

c. $\sqrt{20} + \sqrt{45}$

d. $3\sqrt{12} - \sqrt{32} + \sqrt{27} + 2\sqrt{8}$

4) Use composition to verify that $f(x) = 5x - 1$ and $g(x) = \frac{x+1}{5}$ are inverse functions.

5) Evaluate each expression given the functions described in the tables below.

x	0	7	6	5	3
$g(x)$	9	-1	0	3	8

x	3	0	12	4	8
$h(x)$	2	8	-2	12	10

a. $h(g(5))$

b. $g^{-1}(0)$

c. $h(h(4))$

d. $g(h^{-1}(8))$