

Do Now:

Given $\theta = \frac{2\pi}{3}$, answer the following using the SAME unit of measure:

- a) Sketch the angle in Standard Position. Identify the quadrant.
- b) Find the complement and supplement (if poss.).
- c) Find a positive and negative coterminal angle
- d) Convert to degree measure.

1. Determine which of the following angles is complementary to $\theta = \frac{\pi}{6}$.

- a) $\theta = \frac{5\pi}{6}$ b) $\theta = \frac{13\pi}{6}$ c) $\theta = \frac{\pi}{3}$ d) $\theta = \frac{11\pi}{6}$ e) None of these

2. The central angle θ of a circle with radius 16 inches subtends (cuts) an arc 19.36 inches. Find θ .

- a) 47.3519° b) 1.21° c) 69.3279° d) 0.8264° e) None of these

3. Determine which of the following angles is supplementary to $\theta = \frac{\pi}{12}$.

- a) $\theta = \frac{5\pi}{12}$ b) $\theta = \frac{11\pi}{12}$ c) $\theta = \frac{13\pi}{12}$ d) $\theta = \frac{25\pi}{12}$ e) None of these

4. Find the area of the sector intercepted by a central angle of 130° and with a radius of 9 in.

- a) 10.210 in^2 b) 20.420 in^2 c) 91.892 in^2 d) 585 in^2 e) None of these

5. Convert $\frac{5\pi}{6}$ to degrees

- a) 47.746° b) 68.755° c) 150° d) 216° e) None of these

6. For a circle with radius = 5 inches, what is the length of the arc intercepted by 45° ?

- a) 1.963 in b) 3.927 in c) 9.817 in d) 225 in e) None of these

7. Find an angle that is NOT coterminal to an angle with $\theta = -250^\circ$.

- a) -970° b) 470° c) 110° d) -70° e) None of these

8. Convert to radians: -225° .

- a) $\frac{5\pi}{4}$ b) -1.25 c) 3.927° d) $-\frac{5\pi}{4}$ e) None of these

9. Convert to $D^\circ M' S''$: 20.876°

- a) $20^\circ 52' 36''$ b) $0^\circ 21' 52''$ c) $20^\circ 52' 34''$ d) $21^\circ 51' 68''$ e) None of these

10. Which of the following functions **DOES NOT** have an inverse?

- a) $f(x) = 2x - 5$ b) $f(x) = x^3 + 9$ c) $f(x) = 2|x + 1|$ d) $f(x) = -2\sqrt{x + 7}$ e) None of these

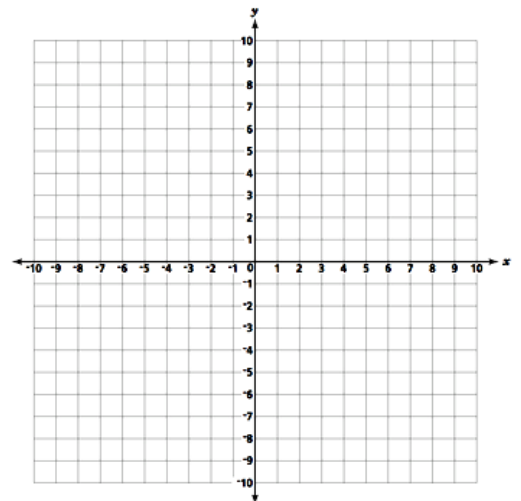
11. Find $(h \circ g)(x)$ and the **DOMAIN** of $(h \circ g)(x)$ if $g(x) = \sqrt{x + 9}$ and $h(x) = x^2 - 8$;

- a) $x + 1$;
 $D: (-\infty, \infty)$ b) $(x^2 - 8)\sqrt{x + 9}$;
 $D: [2, \infty)$ c) $(x^2 - 8)\sqrt{x + 9}$;
 $D: (-\infty, \infty)$ d) $x + 1$;
 $D: [-9, \infty)$ e) None of these

12. For the function $f(x) = x^2 - 3$, $x \geq 0$:

- a. Graph it on the grid provided.
b. Explain how you know $f(x)$ has an inverse.

c. Find the equation of the inverse function, then graph.



d. Identify the following:

Domain of $f(x)$ _____

Range of $f(x)$ _____

Domain of $f^{-1}(x)$ _____

Range of $f^{-1}(x)$ _____