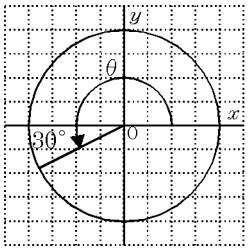
**Unit Circle Day 3**

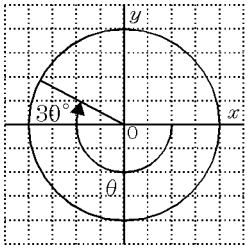
**Name:** _____ **Date:** _____

1. Which graph shows the angle $\theta = -210^\circ$ in standard position?

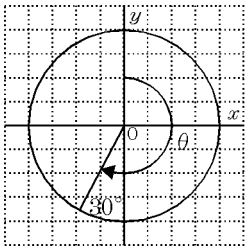
A.



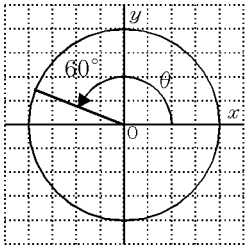

B.




C.




D.




2. Convert to radian measure. Answer in terms of $\pi$ where necessary.

   a) $-120^\circ$

   b) $135^\circ$

   c) $15^\circ$

   d) $\left(\frac{75}{\pi}\right)^\circ$

3. Determine the exact value of $\sin\frac{\pi}{4}$.

   A. $\frac{1}{2}$ B. $\frac{\sqrt{2}}{2}$ C. $\frac{\sqrt{3}}{2}$ D. 1

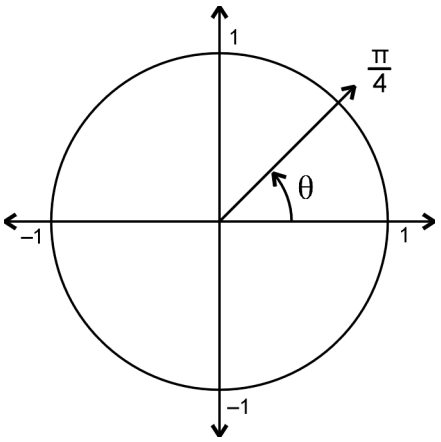
4. Determine the exact value of $\cos\frac{\pi}{3}$.

   A. $\frac{1}{2}$ B. $\frac{\sqrt{2}}{2}$ C. $\frac{\sqrt{3}}{2}$ D. $\sqrt{3}$

5. Find the numerical value of $\tan\frac{\pi}{6}$.

   A. $\sqrt{3}$ B. 1 C. $\frac{\sqrt{3}}{2}$ D. $\frac{\sqrt{3}}{3}$

6. In the diagram of the unit circle, what is $\cos\theta$?




A. $\frac{\sqrt{2}}{2}$ B. $\frac{1}{2}$ C. $\frac{\sqrt{3}}{3}$ D. $\frac{\sqrt{3}}{2}$

7. Find the numerical value of $\cos\frac{\pi}{3}$.

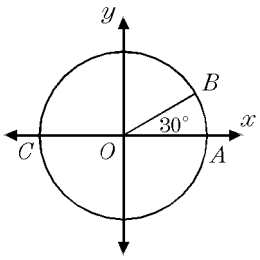
8. In the accompanying diagram of circle $O$, $COA$ is a diameter, $O$ is the origin, $\overline{OA} = 1$, and $m\angle BOA = 30$. What are the coordinates of $B$?

A. $\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

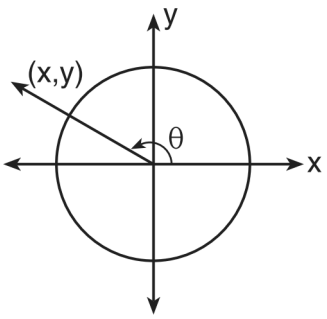
B. $\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$

C. $\left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$

D. $\left(\frac{\sqrt{2}}{2}, \frac{1}{2}\right)$



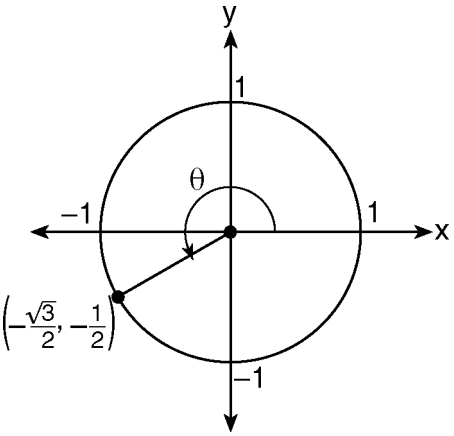

9. In the accompanying diagram of a unit circle, the ordered pair $(x, y)$ represents the point where the terminal side of $\theta$ intersects the unit circle.




If $\theta = 150°$, what is the value of $x$?

A. 1 B. $-\frac{\sqrt{3}}{2}$ C. $-\frac{1}{2}$ D. $-\frac{\sqrt{2}}{2}$

10. In the accompanying diagram of a unit circle, the ordered pair $\left(-\frac{\sqrt{3}}{2}, -\frac{1}{2}\right)$ represents the point where the terminal side of $\theta$ intersects the unit circle.




What is $m\angle\theta$?

A. 210 B. 225 C. 233 D. 240

Unit Circle Day 3 03/19/2017

1.
Answer: B
Objective: F.TF.2

2.
Answer: $-\frac{2\pi}{3}$; $\frac{3\pi}{4}$; $\frac{\pi}{12}$; $\frac{5}{12}$
Objective: F.TF.1

3.
Answer: B
Objective: F.TF.3

4.
Answer: A
Objective: F.TF.3

5.
Answer: D
Objective: F.TF.3

6.
Answer: A
Objective: F.TF.3

7.
Answer: $\frac{1}{2}$
Objective: F.TF.3

8.
Answer: B

9.
Answer: B

10.
Answer: A