Name _____ Class _____ Date _____

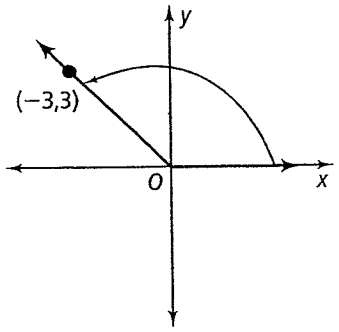
13-2 Practice

Form K

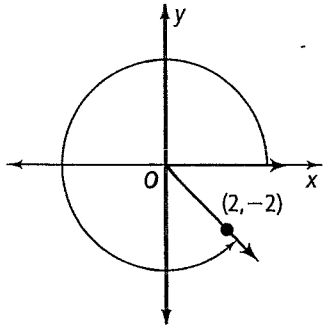
Angles and the Unit Circle

Find the measure of each angle in standard position.

1.



2.

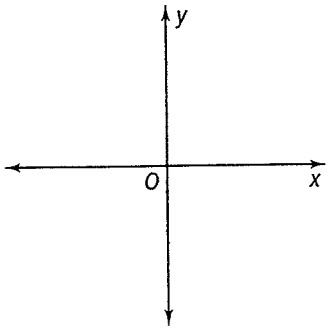


The terminal side of this angle passes through point $(-3, 3)$, so it is 45° beyond a right angle.

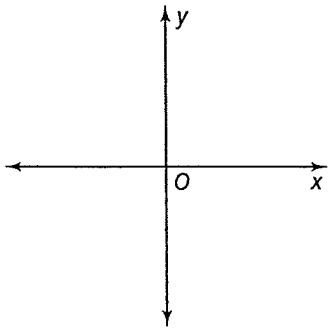
$90° + 45° =$ ☐

Draw a sketch of each angle in standard position. Remember, the measure of an angle is positive when the angle opens in a counterclockwise direction. The measure is negative when the angle opens in a clockwise direction.

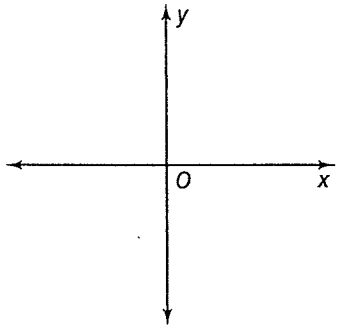
3. 90°



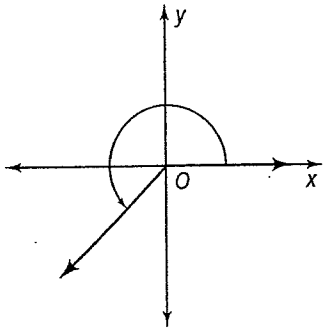
4. 225°



5. −135°



6. **Error Analysis** Your classmate believes that the angle shown below measures −225°. What error did your classmate make? What is the correct measure of the angle?



Name _____ Class _____ Date _____

13-2 Practice (continued)

Form K

Angles and the Unit Circle

Use your knowledge of coterminal angles to answer the following questions. Remember, coterminal angles share a terminal side.

7. Which of the following angles is not coterminal with the other three angles?

(A) 210° (B) −150° (C) 150° (D) 570°

8. Which of the following angles is not coterminal with the other three angles?

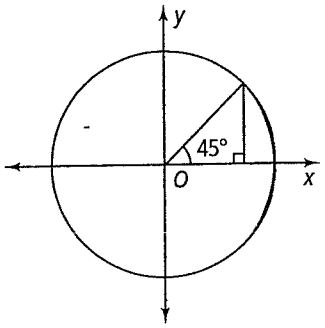
(F) 165° (G) 555° (H) 195° (I) −525°

Use a unit circle to find the sine and the cosine of the following angles.

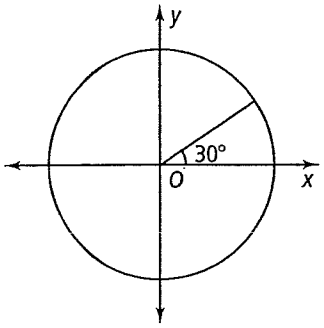
9. −270° 10. 180° 11. 360°

Find the exact sine and cosine of the following angles.

12.



13.



Remember, the lengths of the legs of a 45°-45°-90° triangle are $\frac{\sqrt{2}}{2}$ times the length of the hypotenuse.

Name _____ Class _____ Date _____

13-3 Practice

Form K

Radian Measure

Find the measure of each angle in radians.

1. $30°$

$30° \cdot \frac{\pi \text{ radians}}{180°}$

2. $140°$

3. $300°$

4. $15°$

5. $60°$

6. $260°$

Find the measure of each angle in degrees.

7. 2π radians

$2\pi \cdot \frac{180°}{\pi \text{ radians}}$

8. $\frac{2\pi}{3}$ radians

9. $\frac{\pi}{4}$ radians

Find the exact values of $\sin\theta$ and $\cos\theta$ for the following angles.

10. π

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

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

13. $\frac{\pi}{3}$

14. $\frac{11\pi}{6}$

15. $\frac{7\pi}{6}$

13-3 Practice (continued) Form K

Radian Measure

16. Reasoning Why are radian angle measures sometimes more useful than degree measures?

Find the length of an arc of a circle, given the radius and angle measure.

17. radius = 4

$\theta = \frac{\pi}{2}$

$s = r\theta$

$s = 4\left(\frac{\pi}{2}\right)$

$s = 2\pi$

$s \approx$ [ ]

18. radius = 7

$\theta = \frac{3\pi}{20}$

19. A large pizza with diameter of 18 in. is cut into 8 equal slices. How long is the crust of one slice of pizza?

20. Writing When does it make sense to keep your answers in terms of π? When do you need to simplify?