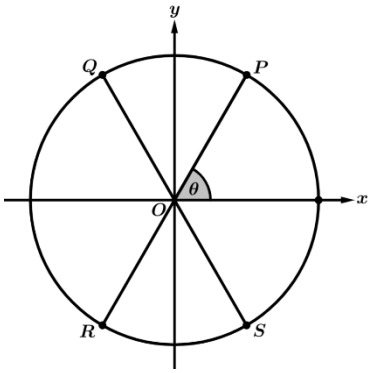
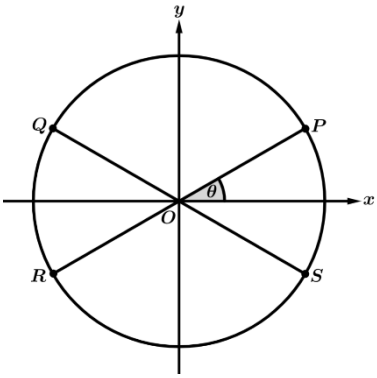
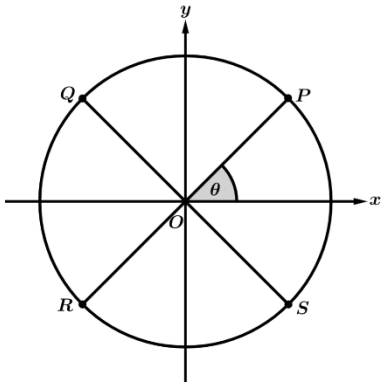


1. The figure shows a circle centered at the origin with an angle of measure θ in standard position. The terminal ray of the angle intersects the circle at point P. The measure of angle θ is $\frac{\pi}{3}$. Find the measures of the angles in standard position whose terminal ray intersects the circle at points $Q, R,$ and S.



2. The figure shows a circle centered at the origin with an angle of measure θ in standard position. The terminal ray of the angle intersects the circle at point P. The measure of angle θ is $\frac{\pi}{6}$. Find the measures of the angles in standard position whose terminal ray intersects the circle at points $Q, R,$ and S.



3. The figure shows a circle centered at the origin with an angle of measure θ in standard position. The terminal ray of the angle intersects the circle at point P. The measure of angle θ is $\frac{\pi}{4}$. Find the measures of the angles in standard position whose terminal ray intersects the circle at points $Q, R,$ and S.

4. Let θ be an angle in standard position whose terminal ray intersects a circle centered at the origin at point P. If point P is in quadrant II, which of the following could be θ?

(A) $\frac{\pi}{4}$ (B) $\frac{5\pi}{6}$ (C) $\frac{4\pi}{3}$ (D) $\frac{7\pi}{4}$

5. Let θ be an angle in standard position whose terminal ray intersects a circle centered at the origin at point P. If point P is in quadrant III, which of the following could be θ?

(A) $\frac{\pi}{3}$ (B) $\frac{3\pi}{2}$ (C) $\frac{5\pi}{4}$ (D) $\frac{11\pi}{6}$

6. Let θ be an angle in standard position whose terminal ray intersects a circle centered at the origin at point P. If point P is in quadrant IV, which of the following could be θ?

(A) $\frac{\pi}{6}$ (B) $\frac{\pi}{2}$ (C) $\frac{5\pi}{6}$ (D) $\frac{5\pi}{3}$

7. Let θ be an angle in standard position whose terminal ray intersects a circle centered at the origin at point P. If point P is in quadrant I, which of the following could be θ?

(A) $-\frac{\pi}{6}$ (B) $\frac{11\pi}{6}$ (C) $-\frac{5\pi}{3}$ (D) $\frac{5\pi}{3}$

8. Let θ be an angle in standard position whose terminal ray intersects a circle centered at the origin at point P. If point P is in quadrant II, which of the following could be θ?

(A) π (B) $\frac{2\pi}{3}$ (C) $\frac{7\pi}{6}$ (D) $\frac{7\pi}{4}$

9. Let θ be an angle in standard position whose terminal ray intersects a circle centered at the origin at point P. If point P is in quadrant III, which of the following could be θ?

(A) $\frac{4\pi}{3}$ (B) $\frac{\pi}{2}$ (C) $\frac{3\pi}{4}$ (D) $\frac{5\pi}{3}$

10. Let θ be an angle in standard position whose terminal ray intersects a circle centered at the origin at point P. If point P is in quadrant IV, which of the following could be θ?

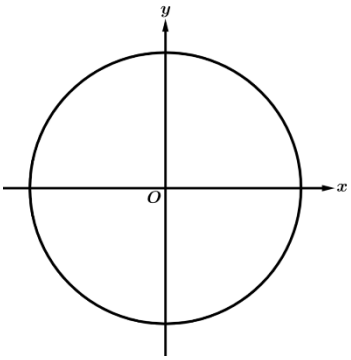
(A) $\frac{7\pi}{6}$ (B) $\frac{7\pi}{4}$ (C) $\frac{3\pi}{4}$ (D) $\frac{3\pi}{2}$

11. Let θ be an angle in standard position whose terminal ray intersects a circle centered at the origin at point P. If point P is in quadrant I, which of the following could be θ?

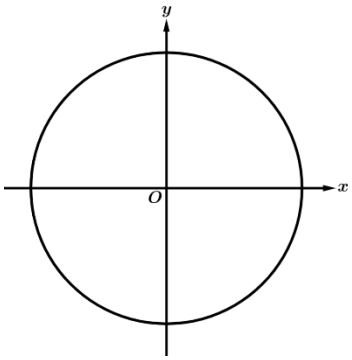
(A) $\frac{13\pi}{6}$ (B) $\frac{13\pi}{4}$ (C) $\frac{11\pi}{3}$ (D) $\frac{11\pi}{2}$

Directions: For problems 12 – 20, sketch the following angles in standard position on the axes below.

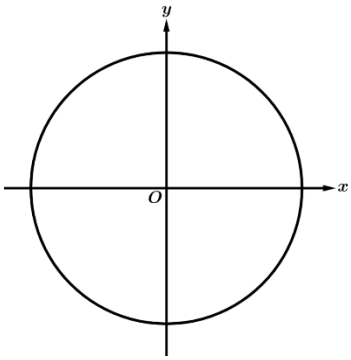
12. $\theta = \frac{2\pi}{3}$



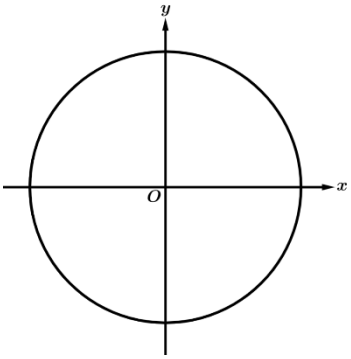
13. $\theta = \frac{\pi}{6}$



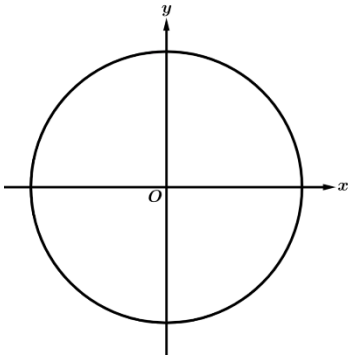
14. $\theta = \frac{5\pi}{4}$



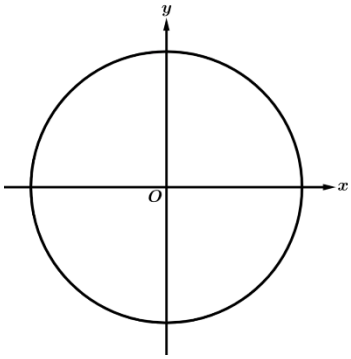
15. $\theta = \frac{\pi}{2}$



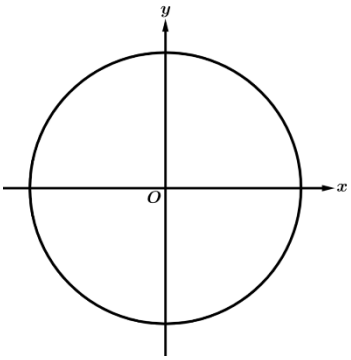
16. $\theta = \frac{7\pi}{6}$



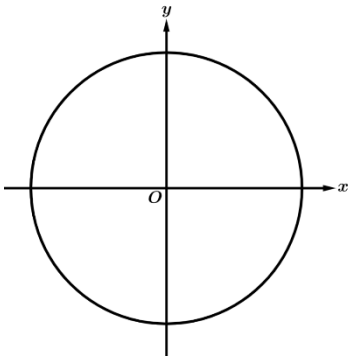
17. $\theta = \frac{5\pi}{3}$



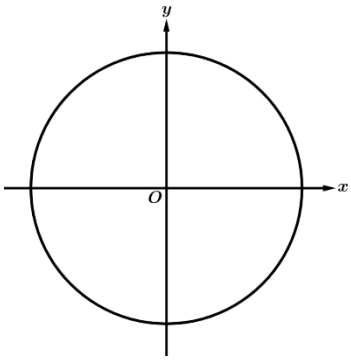
18. $\theta = \pi$



19. $\theta = \frac{3\pi}{4}$

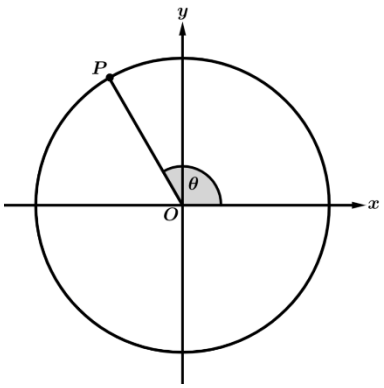


20. $\theta = \frac{11\pi}{6}$



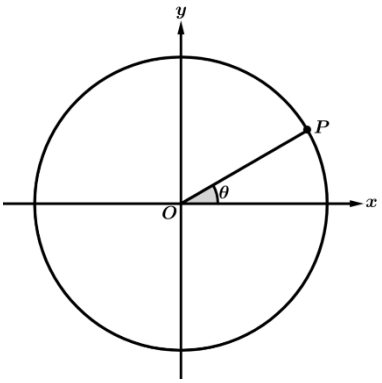
Directions: For problems 21 – 36, determine which of the given answers could be the measure of angle θ in the figure.

21.



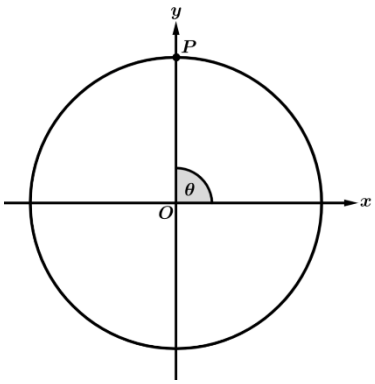
(A) $\frac{5\pi}{6}$ (B) $\frac{7\pi}{6}$ (C) $\frac{2\pi}{3}$ (D) $\frac{4\pi}{3}$

22.



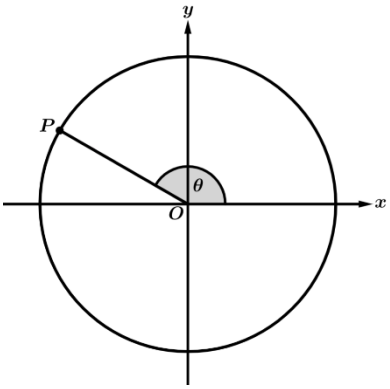
(A) $\frac{\pi}{6}$ (B) $\frac{\pi}{4}$ (C) $\frac{\pi}{3}$ (D) $\frac{\pi}{2}$

23.



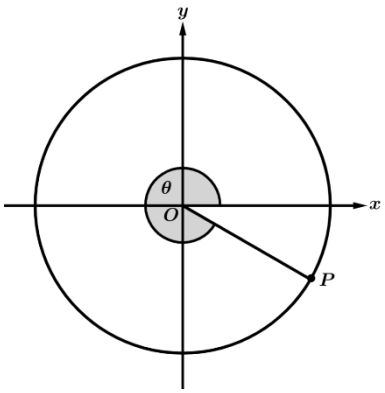
(A) $\frac{\pi}{4}$ (B) $\frac{\pi}{2}$ (C) π (D) $\frac{3\pi}{2}$

24.



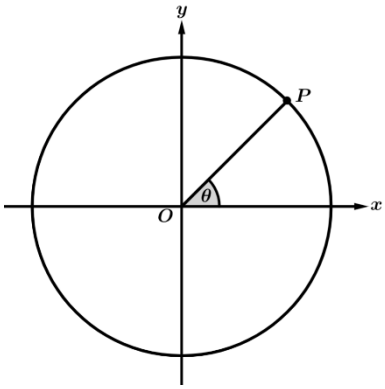
(A) $\frac{\pi}{6}$ (B) $\frac{2\pi}{3}$ (C) $\frac{5\pi}{6}$ (D) $\frac{7\pi}{6}$

25.



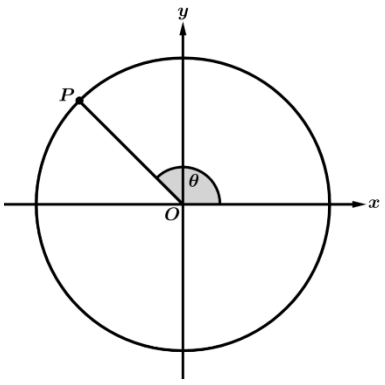
(A) $\frac{\pi}{6}$ (B) $\frac{7\pi}{6}$ (C) $\frac{5\pi}{3}$ (D) $\frac{11\pi}{6}$

26.



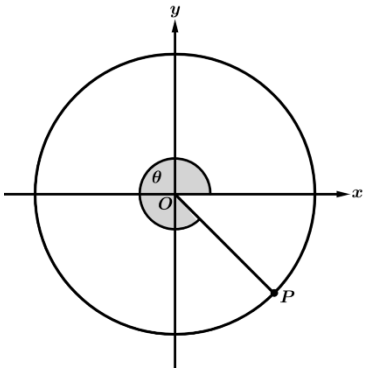
(A) $\frac{\pi}{6}$ (B) $\frac{\pi}{4}$ (C) $\frac{\pi}{3}$ (D) $\frac{\pi}{2}$

27.



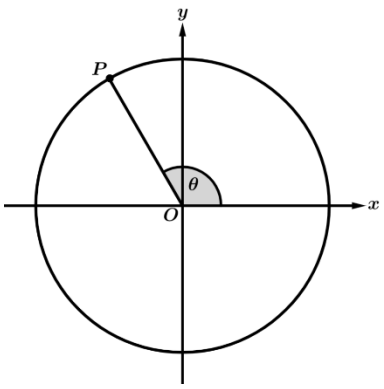
(A) $\frac{2\pi}{3}$ (B) $\frac{3\pi}{4}$ (C) $\frac{5\pi}{6}$ (D) $\frac{5\pi}{4}$

28.



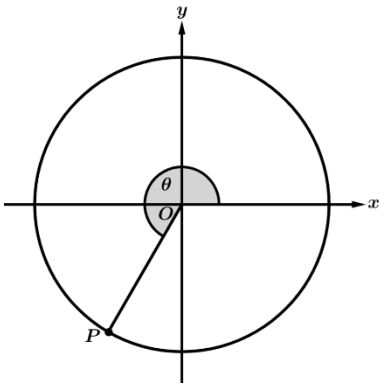
(A) $\frac{\pi}{4}$ (B) $\frac{3\pi}{4}$ (C) $\frac{5\pi}{4}$ (D) $\frac{7\pi}{4}$

29.



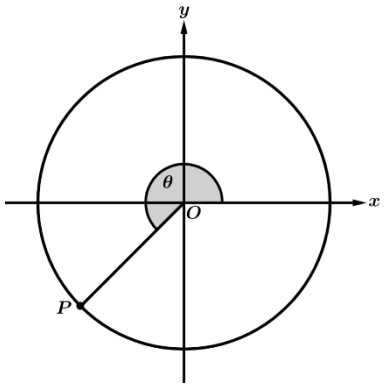
(A) $\frac{5\pi}{6}$ (B) $\frac{7\pi}{6}$ (C) $\frac{2\pi}{3}$ (D) $\frac{4\pi}{3}$

30.



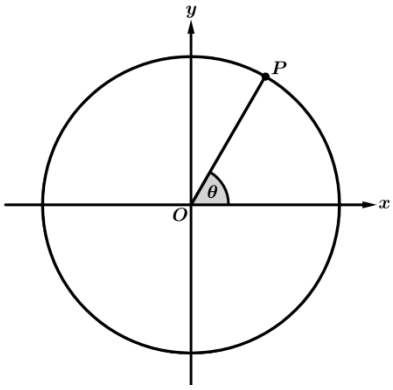
(A) $\frac{5\pi}{6}$ (B) $\frac{7\pi}{6}$ (C) $\frac{2\pi}{3}$ (D) $\frac{4\pi}{3}$

31.



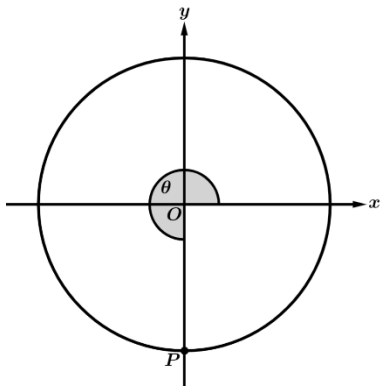
(A) $\frac{3\pi}{4}$ (B) $\frac{7\pi}{6}$ (C) $\frac{5\pi}{4}$ (D) $\frac{4\pi}{3}$

32.



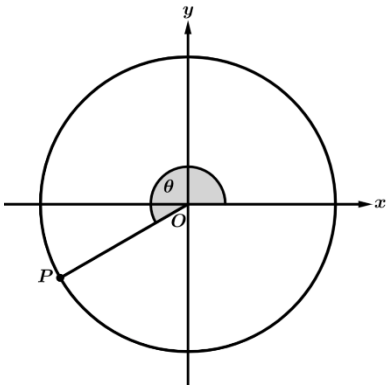
(A) $\frac{\pi}{6}$ (B) $\frac{\pi}{4}$ (C) $\frac{\pi}{3}$ (D) $\frac{\pi}{2}$

33.



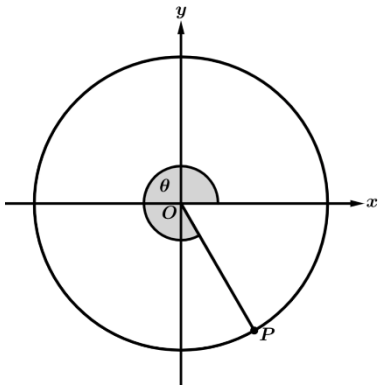
(A) $\frac{\pi}{2}$ (B) π (C) $\frac{3\pi}{4}$ (D) $\frac{3\pi}{2}$

34.



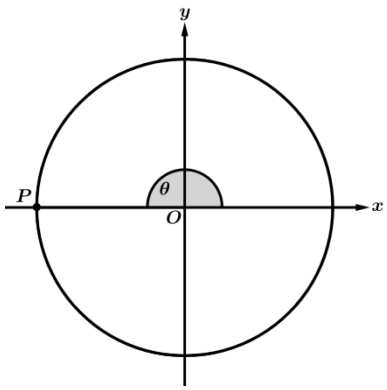
(A) $\frac{5\pi}{6}$ (B) $\frac{7\pi}{6}$ (C) $\frac{2\pi}{3}$ (D) $\frac{4\pi}{3}$

35.



(A) $\frac{4\pi}{3}$ (B) $\frac{5\pi}{3}$ (C) $\frac{7\pi}{4}$ (D) $\frac{11\pi}{6}$

36.



(A) $\frac{\pi}{2}$ (B) π (C) $\frac{3\pi}{2}$ (D) 2π