

HW Answers Unit 5 Lesson 1 p. 291 Odds #5 – 21, 27 - 41

5. (a) Since $0 < \frac{\pi}{5} < \frac{\pi}{2}$, $\frac{\pi}{5}$ lies in Quadrant I.

(b) Since $\pi < \frac{7\pi}{5} < \frac{3\pi}{2}$, $\frac{7\pi}{5}$ lies in Quadrant III.

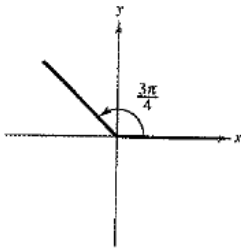
9. (a) Since $\pi < 3.5 < \frac{3\pi}{2}$, 3.5 lies in Quadrant III.

(b) Since $\frac{\pi}{2} < 2.25 < \pi$, 2.25 lies in Quadrant II.

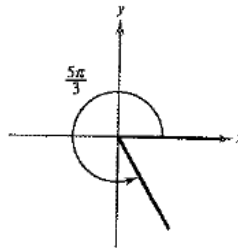
7. (a) Since $-\frac{\pi}{2} < -\frac{\pi}{12} < 0$, $-\frac{\pi}{12}$ lies in Quadrant IV.

(b) Since $-\frac{3\pi}{2} < -\frac{11\pi}{9} < -\pi$, $-\frac{11\pi}{9}$ lies in Quadrant II.

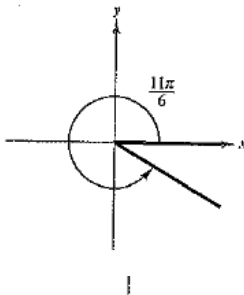
11. (a)



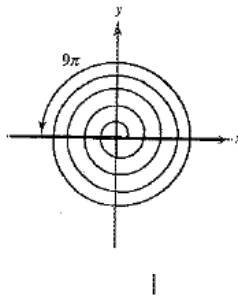
(b)



13. (a)



(b)



15. (a) Coterminal angles for $\frac{\pi}{12}$

$$\frac{\pi}{12} + 2\pi = \frac{25\pi}{12}$$

$$\frac{\pi}{12} - 2\pi = -\frac{23\pi}{12}$$

(b) Coterminal angles for $\frac{2\pi}{3}$

$$\frac{2\pi}{3} + 2\pi = \frac{8\pi}{3}$$

$$\frac{2\pi}{3} - 2\pi = -\frac{4\pi}{3}$$

17. (a) Coterminal angles for $-\frac{11\pi}{4}$

$$-\frac{11\pi}{4} + 4\pi = \frac{5\pi}{4}$$

$$-\frac{11\pi}{4} + 2\pi = -\frac{3\pi}{4}$$

(b) Coterminal angles for $-\frac{2\pi}{15}$

$$-\frac{2\pi}{15} + 2\pi = \frac{28\pi}{15}$$

$$-\frac{2\pi}{15} - 2\pi = -\frac{32\pi}{15}$$

19. (a) Complement: $\frac{\pi}{2} - \frac{\pi}{3} = \frac{\pi}{6}$

Supplement: $\pi - \frac{\pi}{3} = \frac{2\pi}{3}$

(b) Complement: Not possible; $\frac{3\pi}{4}$ is greater than $\frac{\pi}{2}$.

Supplement: $\pi - \frac{3\pi}{4} = \frac{\pi}{4}$

21. (a) Complement: $\frac{\pi}{2} - 1 \approx 0.57$

Supplement: $\pi - 1 \approx 2.14$

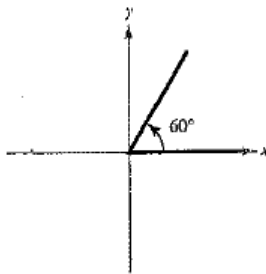
27. (a) Since $90^\circ < 150^\circ < 180^\circ$, 150° lies in Quadrant II.

(b) Since $270^\circ < 282^\circ < 360^\circ$, 282° lies in Quadrant IV.

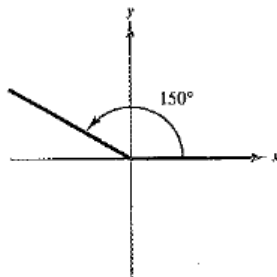
29. (a) Since $-180^\circ < -132^\circ 50' < -90^\circ$, $-132^\circ 50'$ lies in Quadrant III.

(b) Since $-360^\circ < -336^\circ 30' < -270^\circ$, $-336^\circ 30'$ lies in Quadrant I.

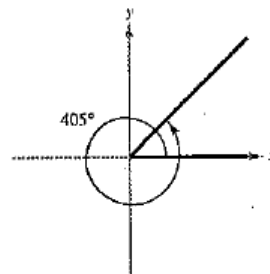
31. (a)



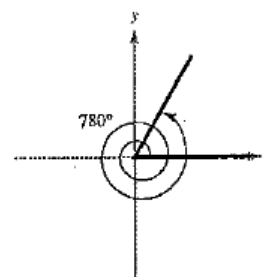
(b)



33. (a)



(b)



35. (a) Coterminal angles for 52°

$$52^\circ + 360^\circ = 412^\circ$$

$$52^\circ - 360^\circ = -308^\circ$$

(b) Coterminal angles for -36°

$$-36^\circ + 360^\circ = 324^\circ$$

$$-36^\circ - 360^\circ = -396^\circ$$

37. (a) Coterminal angles for 300°

$$300^\circ + 360^\circ = 660^\circ$$

$$300^\circ - 360^\circ = -60^\circ$$

(b) Coterminal angles for 230°

$$230^\circ + 360^\circ = 590^\circ$$

$$230^\circ - 360^\circ = -130^\circ$$

39. (a) Complement of 24° : $90^\circ - 24^\circ = 66^\circ$

Supplement of 24° : $180^\circ - 24^\circ = 156^\circ$

(b) Complement of 126° : Not possible because $126^\circ > 90^\circ$

Supplement of 126° : $180^\circ - 126^\circ = 54^\circ$

41. (a) Complement: $90^\circ - 79^\circ = 11^\circ$

Supplement: $180^\circ - 79^\circ = 101^\circ$

(b) Complement: does not exist

Supplement: $180^\circ - 150^\circ = 30^\circ$