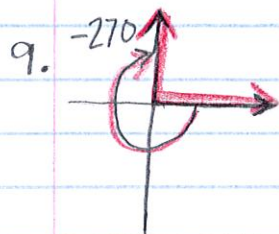


pg. 708 # 3-48 x 3, 69-71

3. $180 + 60 = 240^\circ$



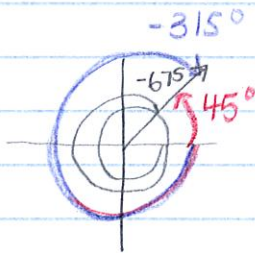
12. 385°
 -360°

 25°

21. $(\cos 60, \sin 60)$ Q IV (+, -)
 $(\frac{1}{2}, -\frac{\sqrt{3}}{2})$; $(0.5, -0.87)$

30. 32° Q I (+, +)
 $(0.85, 0.53)$

39. -675°



$360 < 675 < 720$.
almost went backward
2 full rotations

$$\begin{array}{r} 720 \\ -675 \\ \hline 45^\circ \\ \text{CCW} \end{array}$$

$$\begin{array}{r} 360 \\ -45 \\ \hline 315^\circ \\ \text{CW} = -315^\circ \end{array}$$

45. 150° $90 < 150 < 180$
Q II

69. periodic

small max - small max period = 3

$$\text{amp} = \frac{1}{2}(\text{max} - \text{min}) = \frac{1}{2}(2 - (-1)) = \frac{3}{2}$$

Answers for Lesson 13-2, pp. 708–710 Exercises

1. -315°

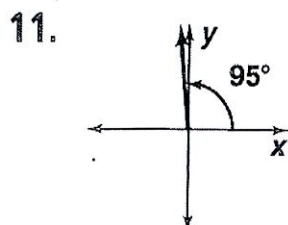
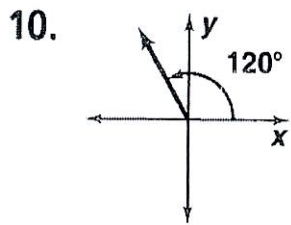
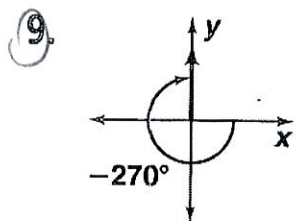
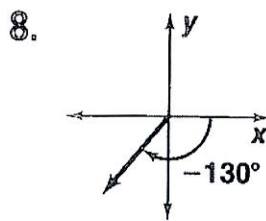
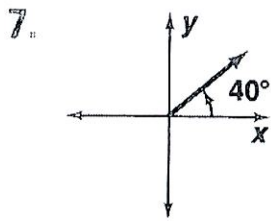
2. -135°

3. 240°

4. 115°

5. -110°

6. -340°



12. 25°

13. 215°

14. 315°

15. 4°

16. 140°

17. 150°

18. 55°

19. 180°

20. $220^\circ, -140^\circ$

21. $\frac{1}{2}, -\frac{\sqrt{3}}{2}; 0.50, -0.87$

22. $-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2}; -0.71, -0.71$

23. $\frac{\sqrt{3}}{2}, -\frac{1}{2}; 0.87, -0.50$

24. $-\frac{1}{2}, \frac{\sqrt{3}}{2}; -0.50, 0.87$

25. $\frac{\sqrt{3}}{2}, \frac{1}{2}; 0.87, 0.50$

26. $\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2}; 0.71, -0.71$

27. $\frac{\sqrt{3}}{2}, -\frac{1}{2}; 0.87, -0.50$

28. $-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}; -0.71, 0.71$

29. 1.00, 0.00

30. 0.85, 0.53

31. 0.71, -0.71

32. -0.87, 0.50

33. -0.09, -1.00

34. 0.98, -0.17

35. -0.90, 0.44

36. 0.00, 1.00

37–44. Answers may vary. Samples:

37. $405^\circ, -315^\circ$

38. $235^\circ, -485^\circ$

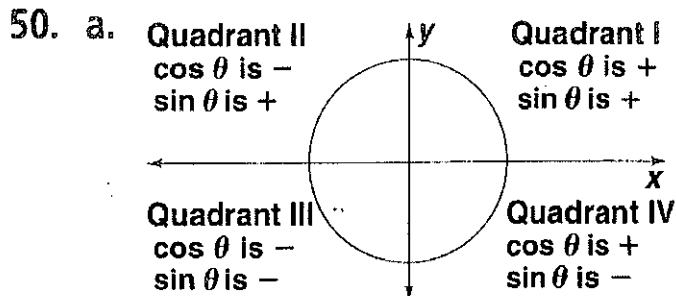
39. $45^\circ, -315^\circ$

40. $40^\circ, -320^\circ$

Answers for Lesson 13-2, pp. 708–710 Exercises (cont.)

41. $275^\circ, -445^\circ$ 42. $295^\circ, -65^\circ$ 43. $573^\circ, -147^\circ$
 44. $303^\circ, -417^\circ$ 45. II 46. III
 47. negative x -axis 48. IV 49. positive x -axis

19

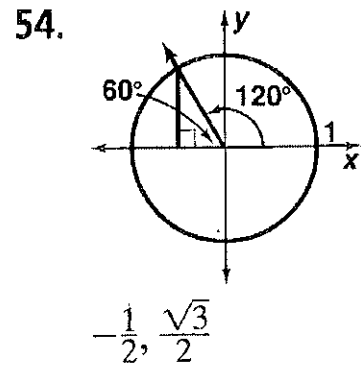
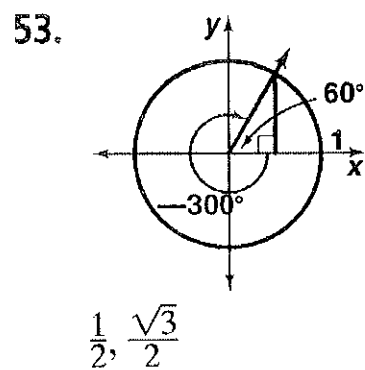


69. periodic; 3
 70. not periodic
 71. periodic; 6

- b. II
 c. If the terminal side of an angle is in Quadrants I or II, then the sine of the angle is positive; otherwise it is not. If the terminal side of an angle is in Quadrants I or IV, then the cosine of the angle is positive; otherwise it is not.

51. a. $0.77, 0.77, 0.77$
 b. The cosines of the three angles are equal because the angles are coterminal.

52. The x -coordinate of the point on the ray defined by angle θ is equal to $\cos \theta$; similarly for the y -coordinate and $\sin \theta$. The angles $0^\circ, 180^\circ,$ and 360° lie on the x -axis, and thus their sines are all 0 and their cosines are ± 1 . The angles 90° and 270° lie on the y -axis, so their cosines are 0 and their sines are ± 1 .



© Pearson Education, Inc. All rights reserved.