

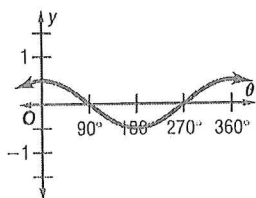
Chapter 14 Assessment Answer Key

Quiz 1

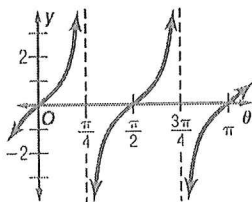
(Lessons 14-1 and 14-2)

Page 57

1. $\frac{1}{2}; 360^\circ$



2. none; $\frac{\pi}{2}$



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

4. 2; $y = 2$

Quiz 2 (Lessons 14-3 and 14-4)

Page 57

1. $\frac{\sqrt{3}}{2}$

2. $\frac{1}{2}$

3. -4

4. $\tan^2 \theta$

5. A

Quiz 3

(Lessons 14-5 and 14-6)

Page 58

1. $\frac{\sqrt{6} + \sqrt{2}}{4}$

2. $\frac{\sqrt{2}}{2}$

3. $\frac{\sqrt{3}}{3}$

4. See students' answers.

5. See students' answers.

6. $\frac{17}{25}$

7. $\frac{8\sqrt{65}}{81}$

8. $\frac{\sqrt{50 - 10\sqrt{21}}}{10}$

9. $\frac{\sqrt{2 - \sqrt{2}}}{2}$

10. See students' answers.

Quiz 4 (Lesson 14-7)

Page 58

1. $30^\circ, 150^\circ, 270^\circ$

2. $\frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3}$

3. $0^\circ + k \cdot 120^\circ$

4. $\frac{\pi}{6} + 2k\pi, \frac{5\pi}{6} + 2k\pi$

5. $s = \frac{40}{\tan \theta}$; about 53°

Mid-Chapter Test

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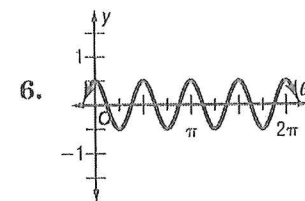
1. C

2. A

3. B

4. A

5. C



7. none; 45° or $\frac{\pi}{4}$

8. $\frac{\sqrt{7}}{4}$

9. $\cos \theta$

10. 1

11. See students' answers.

Chapter 14 Assessment Answer Key

Vocabulary Test

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1. false; amplitude
2. false; vertical shift
3. false; midline
4. true
5. false; half-angle formula
6. true
7. true
8. Sample answer: A phase shift is a horizontal translation of the graph of a trigonometric function.

Form 1

Page 61

1. B

2. A

3. D

4. C

5. A

6. A

7. B

8. D

9. C

Page 62

10. C

11. A

12. B

13. D

14. C

15. D

16. C

17. A

18. B

19. A

20. C

B: See students' answers.

Lesson 14-1

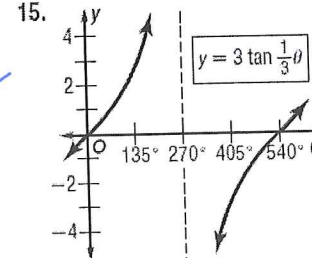
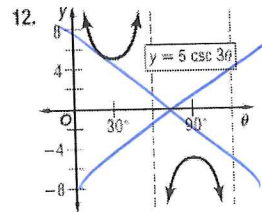
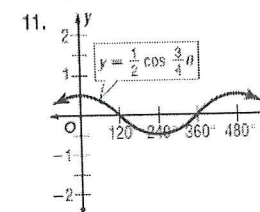
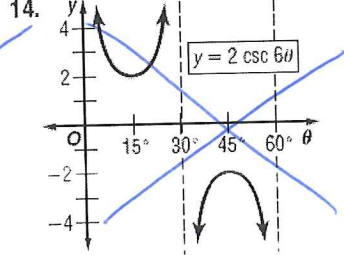
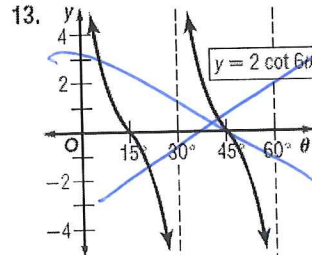
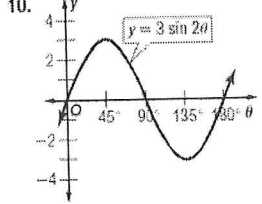
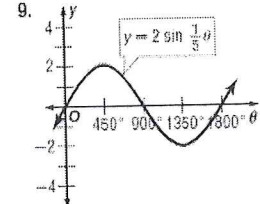
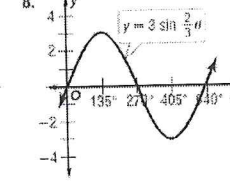
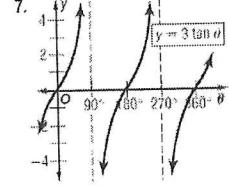
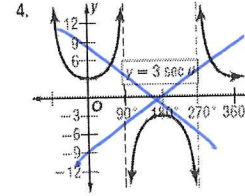
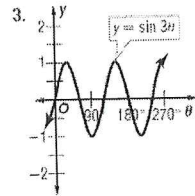
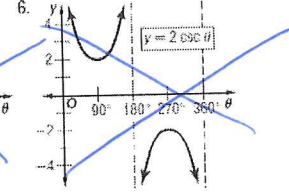
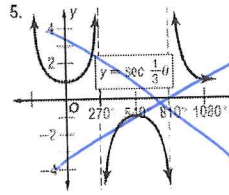
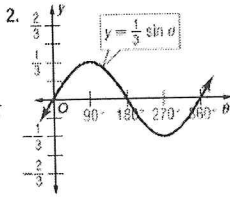
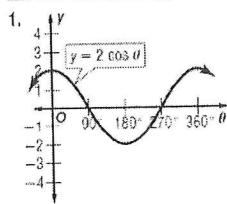
5. none; 1000° or 6π

Pages 822-823

Find the amplitude, if it exists, and period of each function. Then graph each function, 1-15. See Student Handbook Answer Appendix for graphs.

1. $y = 2 \cos \theta$ 2: 360° or 2π 2. $y = \frac{1}{3} \sin \theta$ $\frac{1}{3}$; 360° or 2π 3. $y = \sin 3\theta$ 1: 120° or $\frac{2\pi}{3}$
 4. $y = 3 \sec \theta$ none; 360° or 2π 5. $y = \sec \frac{1}{3}\theta$ 1: 360° or 2π 6. $y = 2 \csc \theta$ none; 360° or 2π
 7. $y = 3 \tan \theta$ none; 180° or π 8. $y = 3 \sin \frac{2}{3}\theta$ 3; 540° or 3π 9. $y = 2 \sin \frac{1}{5}\theta$ 2; 1800° or 10π
 10. $y = 3 \sin 2\theta$ 3; 180° or π 11. $y = \frac{1}{2} \cos \frac{3}{4}\theta$ $\frac{1}{2}$; 480° or $\frac{8\pi}{3}$ 12. $y = 5 \csc 3\theta$ none; 120° or $\frac{2\pi}{3}$
 13. $y = 2 \cot 6\theta$ none; 60° or $\frac{\pi}{3}$ 14. $y = 2 \csc 6\theta$ none; 60° or $\frac{\pi}{3}$ 15. $y = 3 \tan \frac{1}{3}\theta$ none; 540° or 3π

Page 922, Extra Practice (Lesson 14-1)



Lesson 14-2 1-10. See Student Handbook Ans. Appendix for graphs. (pages 829-836)

State the phase shift for each function. Then graph the function.

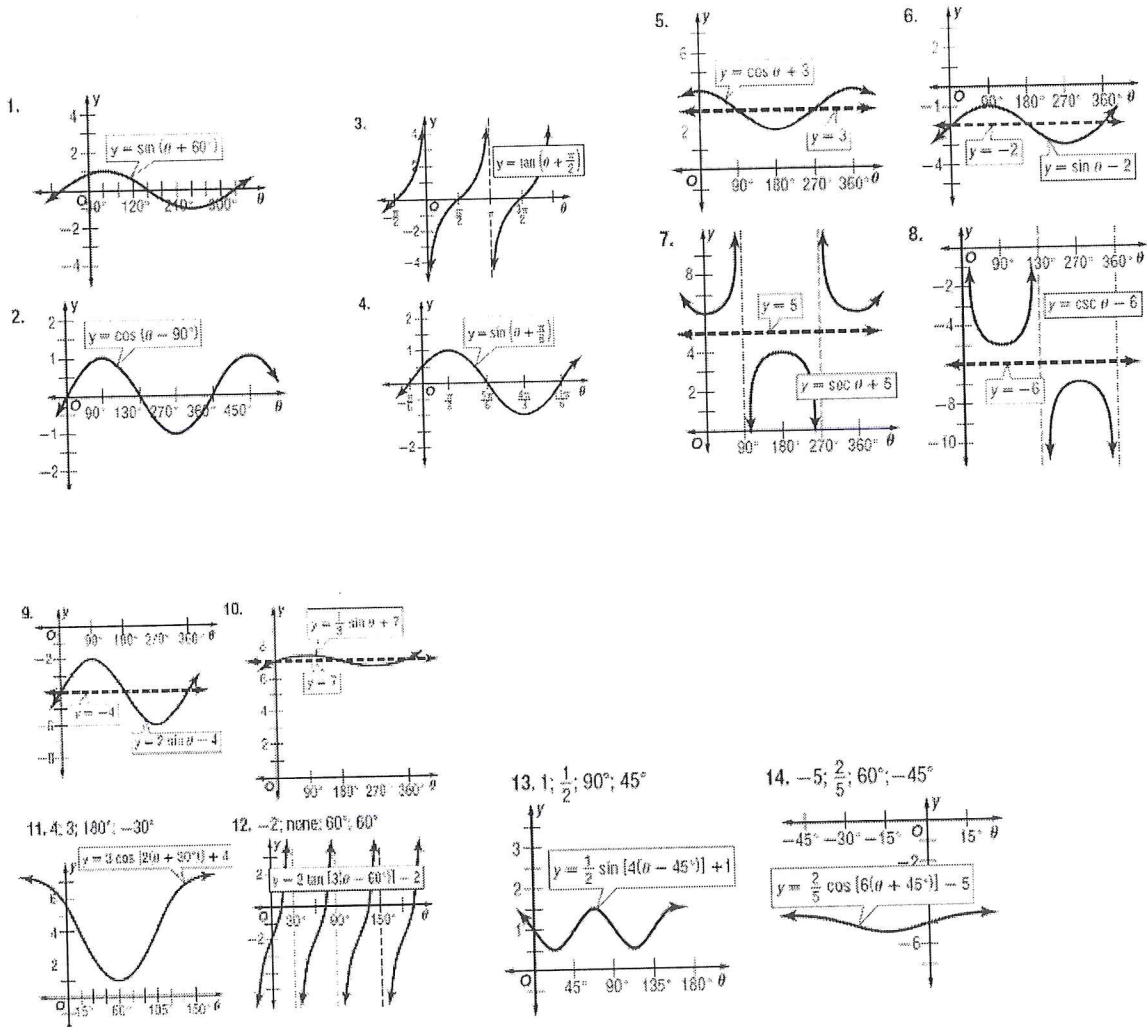
1. $y = \sin(\theta + 60^\circ)$ -60° 2. $y = \cos(\theta - 90^\circ)$ 90°
 3. $y = \tan\left(\theta + \frac{\pi}{2}\right)$ $-\frac{\pi}{2}$ 4. $y = \sin\theta + \frac{\pi}{6}$ $-\frac{\pi}{6}$

State the vertical shift and the equation of the midline for each function. Then graph the function.

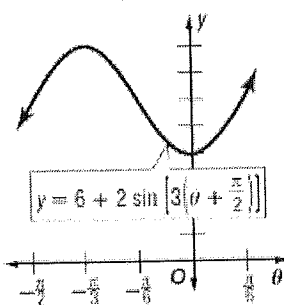
5. $y = \cos\theta + 3$; $y + 3$ 6. $y = \sin\theta - 2$; $y - 2$ 7. $y = \sec\theta + 5$; $y + 5$
 8. $y = \csc\theta - 6$; $y - 6$ 9. $y = 2\sin\theta - 4$; $y - 4$ 10. $y = \frac{1}{3}\sin\theta + 7$; $y + 7$

State the vertical shift, amplitude, period, and phase shift of each function. Then graph the function. 11-16. See Student Handbook Answer Appendix.

11. $y = 3\cos[2(\theta + 30^\circ)] + 4$ 12. $y = 2\tan[3(\theta - 60^\circ)] - 2$ 13. $y = \frac{1}{2}\sin[4(\theta + 45^\circ)] + 1$
 14. $y = \frac{2}{5}\cos[6(\theta + 45^\circ)] - 5$ 15. $y = 6 - 2\sin[3(\theta + \frac{\pi}{2})]$ 16. $y = 3 + 3\cos[2(\theta - \frac{\pi}{3})]$



15. $6; 2; \frac{2\pi}{3}; -\frac{\pi}{2}$



16. $3; 3; \pi; \frac{\pi}{9}$

