HONORS ANALYSIS

CHAPTER 8

Trigonometric Equations and Applications

Assignments

Assignment	Section	Page	Problems
1	8.1	299	1 - 29 odd
2	8.1	300	26 - 30 even, 31 - 36, 45
3	8.2	305	1 - 19 odd
4	8.2	306	21 - 27 odd, 33 - 36
5	8.3	313	1 - 16
6	8.3	314	17 - 26
7	8.4	321	1 - 25 odd
8	8.4	321	27 - 37 odd
9	8.4	322	14 - 38 even, 40 - 42
10	8.5	326	1 - 23 odd
11	8.5	326	18 - 24 even, 25 - 28, 29 - 35 odd
13	Chapter Test	328	1 - 10

Even Answers - Chapter 8

Section 8.1

26. 14° 28. 11° 30. 146°

32. $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$ 34. $\frac{\pi}{3}, \frac{5\pi}{3}$

36. $\frac{\pi}{6}, \frac{7\pi}{6}$

Section 8.2

6. 2, π 8. $\frac{1}{2}$, 1 10. 1.5,4

12. 2, 24π, $y = 2\cos\frac{1}{12}x$

14. 2, 8, $y = -2\sin\frac{\pi}{4}x$

16. 5, 2, $y = -5\cos\pi x$

18. $y = \pm 9\cos\frac{2\pi}{5}x$

20. $\frac{\pi}{6}, \frac{5\pi}{6}$

22. 1.18, 1.96, 3.28, 4.05, 5.37, 6.15

24. 2.46

26. 2.43, 5.57

34. a. 0.5018 sec b. 24.8 cm

36. a. 2^{-t} b. 5.68×10^{-4} s

36 c. $D = B\left(2^{-t}\right)\sin 440\pi t$

Section 8.3

2. $y = 3 + \cos\frac{\pi}{4}(x - 2)$

$y = 3 + \sin\frac{\pi}{4}x$

4. $y = \frac{1}{2} + \frac{3}{2}\cos\frac{\pi}{5}(x - 2)$

$y = \frac{1}{2} + \frac{3}{2}\sin\frac{\pi}{5}\left(x + \frac{1}{2}\right)$

6. $y = 2\cos\left(x + \frac{\pi}{4}\right)$

$y = 2\sin\left(x + \frac{3\pi}{4}\right)$

8. $y = \frac{3}{2} + \frac{5}{2}\cos 2\left(x - \frac{\pi}{2}\right)$

$y = \frac{3}{2} + \frac{5}{2}\sin 2\left(x - \frac{\pi}{4}\right)$

10 - 14 Check on your calc.

16. a. $D = 2.9 + 1.1\cos\left[0.491(t - 3)\right]$

16. b. 2.58 m c. 12:47 pm - 6:49 pm

18. $y = 12 - 3\sin\frac{2\pi}{365}(x - 80)$

20. a. $T = 6 + 20\sin\frac{2\pi}{365}(x - 105)$

20. b. $T = 25 + 3\cos\frac{2\pi}{365}(x - 15)$

24. a. $y = 19 + \cos 4\pi(x - 10.5)$

26. $h = 35 + 20\cos\frac{500}{63}t$

Section 8.4

14. cot x 16. 1 18. $\sec\pi$

20. csc y 22. $\sin\pi$ 24. $1 - \cos\pi$

28. $\left\{x \mid x \neq \frac{n\pi}{2}, n \in Z\right\}$

$y = 1, \left\{x \mid x \neq \frac{n\pi}{2}, n \in Z\right\}$

40. $\tan\theta = \pm\frac{\sqrt{1 - \cos^2\theta}}{\cos\theta}$

Section 8.5

14. 0.32, 3.46

16. 1.11, 4.25

18. $0, \frac{\pi}{4}, \frac{3\pi}{4}, \pi, \frac{5\pi}{4}, \frac{7\pi}{4}$

20. $\frac{\pi}{4}, \frac{5\pi}{4}$, 2.16, 5.30

22. 2.00, 4.29

24. $\frac{\pi}{6}, \frac{\pi}{2}, \frac{5\pi}{6}, \frac{3\pi}{2}$

26. $\frac{\pi}{6}, \frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{6}, \frac{5\pi}{4}, \frac{7\pi}{4}$

28. $\frac{\pi}{2}$, 5.36

30. 0, 4.49