

Unit 6.1-6.3 Answers

1. $\cos \theta = \frac{4}{5}$; $\tan \theta = \frac{3}{4}$; $\csc \theta = \frac{5}{3}$; $\sec \theta = \frac{5}{4}$; $\cot \theta = \frac{4}{3}$

2. $\sin \theta = \frac{\sqrt{3}}{2}$, $\cos \theta = \frac{1}{2}$; $\tan \theta = \sqrt{3}$; $\csc \theta = \frac{2\sqrt{3}}{3}$; $\cot \theta = \frac{\sqrt{3}}{3}$

3. $a = 2.74$; $b = 7.52$; $B = 70^\circ$ 4. $a = 30.80$; $B = 103.1^\circ$; $C = 46.9^\circ$

5. $a = 7.74$; $A = 36.4^\circ$; $C = 57.6^\circ$ 6. -350° , 370° 7a. angle should be drawn clockwise
terminal side is in QII.

7b. d 8. b 9. a 10. 79.5°

Unit 6.4-6.6 Answers

11b. 70° 11c. 250° and -110° 12a. $\frac{\pi}{6}$ 12b. $\frac{5\pi}{6}$ and $\frac{-19\pi}{6}$

13a. 240° , $\frac{4\pi}{3}$ 13b. $-1/2$ 14. $\frac{-\sqrt{3}}{3}$ F 15. G and K 16. D and L

17. $y = 3 \sin 2(x + 90) - 4$ 18. $y = 4 \cos 4x - 2$

19. Period: 180 Amp: 3 Phase Shift: NA Horz Shift: NA

20. Period: 360 Amp: 2 Phase Shift: 90 right Horz Shift: 1 up

Unit 7 Answers

21. $a_n = 9n + 2$ 22. $a_n = \frac{1}{27} (3)^{n-1}$ 23. $a_n = (n + 2)^2$ 24. $a_5 = 22$ 25. $a_5 = 16$

26. $a_1 = 2.5$, $a_n = 2a_{n-1}$ 27. $a_1 = 2$, $a_n = a_{n-1} - 4$ 28. $\sum_{n=1}^{15} -3n + 11$ 29. 3,486,784,4000

30. 125,500

Unit 8 Answers

- 31a.** -2 **b.** 1 **c.** 3 **d.** 27 **32a.** $\log_5 2 + \frac{1}{2} \log_5 w - \log_5 4 - 5 \log_5 y$
- 32b.** $\ln 20 + 3 \ln x + 2 \ln y$ **33a.** $\ln \frac{10y^8}{x^2}$ **33b.** $\log_3 \frac{x^4 y}{z^2}$
- 34a.** D: all reals, R: $y > 7$, growth **34b.** D: all reals, R: $y > 0$, decay
- 35a.** 3.161 **35b.** 2.861 **36.** \$9,447.81 **37.** ≈ 13.5 years
- 38a.** \$567.11 **b.** \$569.41 **c.** \$569.21
- 39a.** $x = 0.165$ **b.** $x = 0.693$ **c.** $x = 2$ **d.** no solution **e.** $x = 41$
- 39f.** $x = 3$ **40.** all of them

Unit 9 Answers

- 41.** $\frac{x}{x-2}$ **42.** $\frac{x+1}{x-4}$ **43.** $28x^2y$ **44.** $\frac{(x+2)(x-6)}{2(x-4)}$
- 45.** D **46.** $\frac{3x^2 + 3x - 4}{x(x+4)^2}$ **47.** $\frac{-5x-2}{(x+4)(x-3)(x+1)}$
- 48.** $x = -6, x = 2$ **49.** No Solution ($x = 1$ is extraneous) **50.** $x = -7$ ($x = 4$ is extraneous)