Math 116 Homework Answers
Chapter 6

Section 6.1

22. $55^\circ 9'$

Section 6.2

4. $-\frac{3}{5}$, $-\frac{4}{5}$, $\frac{3}{4}$, $\frac{4}{3}$

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

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

9. $-\frac{3}{5}$, $\frac{4}{5}$, $\frac{5}{6}$, $\frac{6}{5}$, $\frac{7}{8}$

42. $-\frac{1}{4}$

44. $\frac{\sqrt{15}}{15}$

52. $2.5$

55. $\Pi$

58. II or IV

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

63. $-$, $+$, $-$

77. $\frac{\sqrt{15}}{4}$

79. $\frac{4}{3}$

89. $-\frac{\sqrt{3}}{2}$, $-\frac{1}{2}$, $\frac{\sqrt{3}}{3}$, $-\frac{2}{3}$

Section 6.3


7. $\frac{n}{p}$, $\frac{m}{n}$, $\frac{m}{p}$, $\frac{n}{m}$

9. $c = \frac{12}{13}$, $\frac{12}{13}$, $\frac{5}{13}$, $\frac{5}{13}$, $\frac{12}{13}$

15. $\sqrt{2}$

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

31. $x = \frac{9\sqrt{3}}{2}$, $y = \frac{9}{2}$, $z = \frac{3\sqrt{3}}{2}$, $w = 3\sqrt{3}$

36. C 37. F 38. A

64. false; $\frac{1 + \sqrt{3}}{2} \neq 1$

68. false; $\frac{\sqrt{3}}{2} \neq 0$

Section 6.4

9. $B = 53^\circ 40'$; $a = 571$ m; $b = 777$ m

35. 26.92 in.

38. 28.0 m

39. $37^\circ 40'$

41. 42,600 ft

55. 448 m

59. 10.8 ft
Section 6.5

5. $\frac{\pi}{3}$ 7. $\frac{5\pi}{6}$ 9. $\frac{7\pi}{4}$ 15. $480^\circ$ 17. $120^\circ$ 18. $330^\circ$ 20. $-30^\circ$ 29. $286^\circ$ 34. $\frac{\sqrt{3}}{2}$

38. $\frac{1}{2}$ 51. 8 53. 1 75. $6\pi$ 76. $16\pi$

Section 6.7

2. C 4. B 7. $\frac{2}{3}$

11. 2

15. $\frac{8\pi}{3}; 1$

17. $8\pi; 2$

19. $\frac{2\pi}{3}; 2$


39. $y = 2\cos \left(x - \frac{\pi}{3}\right)$
Section 6.9


15. \[
y = \sec \left(x + \frac{\pi}{4}\right)
\]

25. \[
y = \frac{1}{2} \cot x
\]

26. \[
y = 2 \tan \frac{1}{4}x
\]

31. \[
y = \csc \left(3x + \frac{\pi}{4}\right)
\]

33. \[
y = 1 + \tan x
\]