

## Chapter 8 Review Solutions

$$1) \sin\theta = \frac{7\sqrt{65}}{65}, \cos\theta = \frac{4\sqrt{65}}{65}, \tan\theta = \frac{7}{4}$$

$$\csc\theta = \frac{\sqrt{65}}{7}, \sec\theta = \frac{\sqrt{65}}{4}, \cot\theta = \frac{4}{7}$$

$$2) \sin\theta = \frac{5\sqrt{41}}{41}, \cos\theta = \frac{4\sqrt{41}}{41}, \tan\theta = \frac{5}{4}$$

$$\csc\theta = \frac{\sqrt{41}}{5}, \sec\theta = \frac{\sqrt{41}}{4}, \cot\theta = \frac{4}{5}$$

$$3) \sin\theta = \frac{6}{7}, \cos\theta = \frac{\sqrt{13}}{7}, \tan\theta = \frac{6\sqrt{13}}{13}$$

$$\csc\theta = \frac{7}{6}, \sec\theta = \frac{7\sqrt{13}}{413}, \cot\theta = \frac{\sqrt{13}}{6}$$

4)  $a = 5.2$

$c = 6$

$A = 60^\circ$

5)  $c = 5$

$A = 53.13^\circ$

$B = 36.87^\circ$

6)  $b = 4.77$

$c = 6.22$

$B = 50^\circ$

7)  $13^\circ$

8) 200 ft

9) 31,744 ft

10)  $B = 45^\circ, a = 9, c = 12.73$

11)  $C = 10^\circ, b = 5.24, c = 0.92$

12)  $B = 90^\circ, C = 60^\circ, c = 36.4$

13) two triangles

$$A_1 = 30^\circ, C_1 = 124^\circ, c_1 = 12.3;$$

$$A_2 = 150^\circ, C_2 = 4^\circ, c_2 = 1$$

14) 1.7 mi

15) no triangle

16) 1.47 mi

17) 26.29 m

18) 19.41 ft

19) 3.35 mi

20)  $c = 8.95, A = 33.8^\circ, B = 51.2^\circ$

21)  $c = 54.98, A = 55.5^\circ, B = 9.5^\circ$

22)  $a = 6.36, B = 47.6^\circ, C = 62.4^\circ$

23)  $A = 57.1^\circ, B = 44.4^\circ, C = 78.5^\circ$

24)  $A = 21.8^\circ, B = 60.1^\circ, C = 98.1^\circ$

25)  $A = 87.4^\circ, B = 57.3^\circ, C = 35.3^\circ$

26) 61.7 ft

27) 270.8 mi

28) 70.92

29) 177.99

30) 28 cans

31) 71 ft<sup>2</sup>