

## Chapter 8 Review Solutions

$$1) \sin \theta = \frac{7\sqrt{65}}{65}$$

$$2) \cos \theta = \frac{4\sqrt{41}}{41}$$

$$3) \frac{6\sqrt{13}}{13}$$

$$4) a = 5.2$$

$$c = 6$$

$$A = 60^\circ$$

$$5) c = 5$$

$$A = 53.13^\circ$$

$$B = 36.87^\circ$$

$$6) b = 4.77$$

$$c = 6.23$$

$$B = 50^\circ$$

$$7) 13^\circ$$

$$8) 200 \text{ ft}$$

$$9) 31,744 \text{ ft}$$

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

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

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

13) two triangles

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

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

$$14) 1.7 \text{ mi}$$

15) no triangle

$$16) 1.47 \text{ mi}$$

$$17) 26.29 \text{ m}$$

$$18) 19.41 \text{ ft}$$

$$19) 3.35 \text{ mi}$$

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

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

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

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

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

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

$$26) 61.7 \text{ ft}$$

$$27) 270.8 \text{ mi}$$

$$28) 70.92$$

$$29) 177.99$$

$$30) d = -6 \cos \left( \frac{2}{3} \pi t \right)$$

$$31) d = -10 \sin \left( \frac{1}{2} \pi t \right)$$

32) simple harmonic; 4 m;  $\frac{2}{5} \pi \text{ sec}$ ;  $\frac{5}{2\pi}$  oscillations/sec

33) simple harmonic; 4 m;  $\frac{2}{3} \pi \text{ sec}$ ;  $\frac{3}{2\pi}$  oscillations/sec