

### SM3H 7.1 The Law of Sines (key-odds)

1.  $\gamma = 44^\circ$ ,  $b = 14.4$ ,  $c = 10.5$

3.  $\beta = 26^\circ$ ,  $a = 14.6$ ,  $b = 35.8$

5. no triangle possible

7.  $\gamma = 15.6^\circ$ ,  $\alpha = 26.3^\circ$ ,  $a = 10.3$

9.  $\alpha_1 = 45.1^\circ$ ,  $\gamma_1 = 102.2^\circ$ ,  $c_1 = 51.7$

$\alpha_2 = 134.9^\circ$ ,  $\gamma_2 = 12.4^\circ$ ,  $c_2 = 11.4$

11.  $x = 18.4$  miles

13. 539.5 m

15. 76.1 m

16a. 1

16b.  $\frac{3\pi}{4}$

16c.  $-\sqrt{3}$

16d.  $-\frac{2\sqrt{3}}{3}$

16e.  $-\sqrt{2}$

16f.  $-\frac{\pi}{6}$

17a.  $x = \frac{2\pi}{3} + 2\pi k$ ,  $x = \frac{4\pi}{3} + 2\pi k$

17b.  $x = \frac{\pi}{4} + 2\pi k$ ,  $x = \frac{3\pi}{4} + 2\pi k$

19.  $x = -3$