Homework 10 Math 48C Mitchell Schoenbrun
9.2 P. 634 #1-4, 11-15, 23-24, 27

1.

$$a=\sqrt{4^2+5^2-2\cdot 4\cdot 5\cos\left(53^\circ\right)}\approx 4.1$$

2.

$$b=\sqrt{7^2+10^2-2\cdot 7\cdot 10\cos\left(37^\circ\right)}\approx 6.1$$

3.

$$r=\sqrt{3^2+2^2-2\cdot 3\cdot 2\cos\left(131^\circ\right)}\approx 4.6$$

4.

$$l=\sqrt{8^2+5^2-2\cdot 8\cdot 5\cos\left(175^\circ\right)}\approx 13.0$$

11.

$$\angle A=\cos^{-1}\left(\frac{2^2-3^2-4^2}{-2\cdot 3\cdot 4}\right)\approx 29^\circ$$

12.

$$\angle C=\cos^{-1}\left(\frac{9^2-6^2-7^2}{-2\cdot 6\cdot 7}\right)\approx 87^\circ$$

13.

$$\angle T=\cos^{-1}\left(\frac{12^2-7^2-6^2}{-2\cdot 7\cdot 6}\right)\approx 135^\circ$$

14.

$$\angle E=\cos^{-1}\left(\frac{21^2-17^2-13^2}{-2\cdot 17\cdot 13}\right)\approx 88^\circ$$

15.

$$\angle Y=\cos^{-1}\left(\frac{5^2-7^2-11^2}{-2\cdot 7\cdot 11}\right)\approx 20^\circ$$

23.

$$\angle A=\cos^{-1}\left(\frac{9.8^2-10.1^2-5.5^2}{-2\cdot 10.1\cdot 5.5}\right)\approx 71^\circ$$

$$\angle C=\cos^{-1}\left(\frac{10.1^2-9.8^2-5.5^2}{-2\cdot 9.8\cdot 5.5}\right)\approx 77^\circ$$

$$\angle B=180^\circ-71^\circ-77^\circ=32^\circ$$

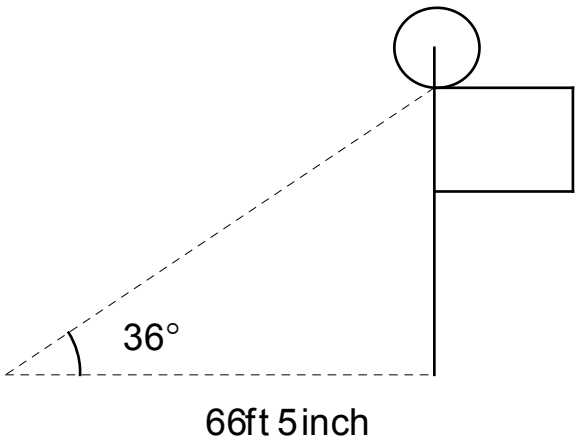
24.

$$\angle A=90^\circ-33^\circ=57^\circ$$

$$b=23\sin\left(33^\circ\right)\approx 12.5$$

$$a=\sqrt{23^2-12.5^2}\approx 19.3$$

27.



$$66\,ft\ 5in=797in$$

$$\frac{h}{797in}=\tan\left(36^\circ\right)$$

$$h=797\tan\left(36^\circ\right)\approx 579=48\,ft\ 3in$$