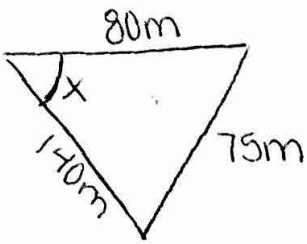


HW 127

1.

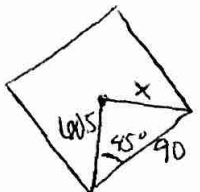


$$75^2 = 80^2 + 140^2 - 2(80)(140)\cos X$$

$$0.91 = \cos X$$

$$\angle X = \cos^{-1}(0.91) = 24.6^\circ$$

2.

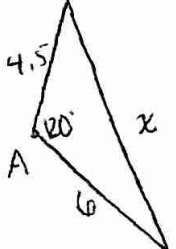


$$x^2 = 60.5^2 + 90^2 - 2(60.5)(90)\cos 45$$

$$x^2 = 4059.9$$

$$x = 63.7 \text{ ft}$$

3.

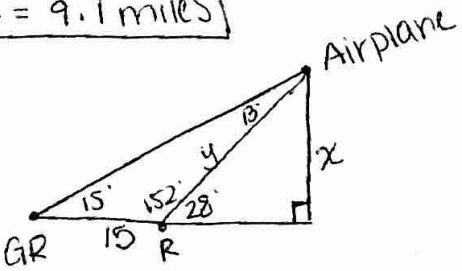


$$x^2 = 4.5^2 + 6^2 - 2(4.5)(6)\cos 120$$

$$x^2 = 83.25$$

$$x = 9.1 \text{ miles}$$

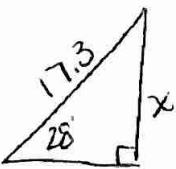
4.



$$\frac{\sin B}{15} = \frac{\sin 15}{y}$$

$$y \sin B = 15 \sin 15$$

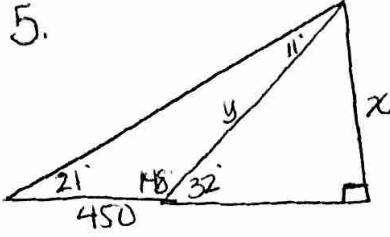
$$y = 17.3$$



$$\sin 28 = \frac{x}{17.3}$$

$$x = 8.1 \text{ miles}$$

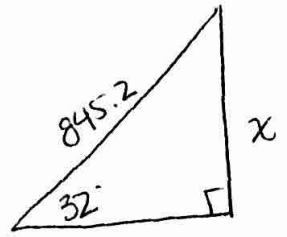
5.



$$\frac{\sin 11}{450} = \frac{\sin 21}{y}$$

$$y \sin 11 = 450 \sin 21$$

$$y = 845.2$$



$$\sin 32 = \frac{x}{845.2}$$

$$x = 447.9 \text{ m}$$