



$$\tan(8^\circ) = \frac{300}{x}$$

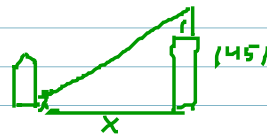
$$x = \frac{300}{\tan(8^\circ)} = 2134.610917 \text{ ft}$$

$$\tan(5^\circ) = \frac{300}{y}$$

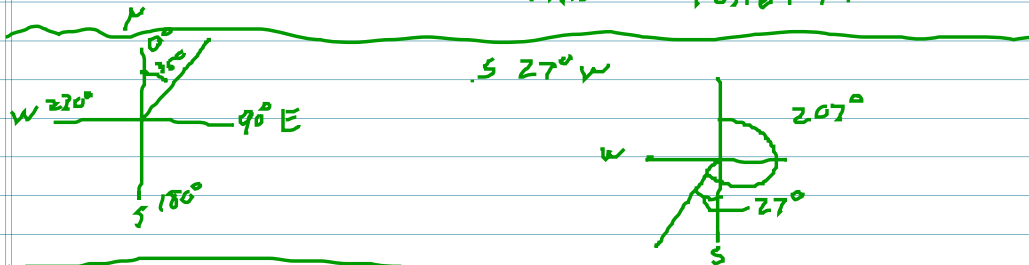
$$y = \frac{300}{\tan(5^\circ)} = 3429.615691 \text{ ft}$$

$$d = y - x = 1294.404774 \text{ ft}$$

10.3° 1451 ft tall



$$\tan(10.3^\circ) = \frac{1451}{x} \rightarrow x = \frac{1451}{\tan(10.3^\circ)} = 2481.69 \text{ ft}$$



47° 200 miles
190° 300 miles

$$\sin(47^\circ) = \frac{x_1}{200}$$

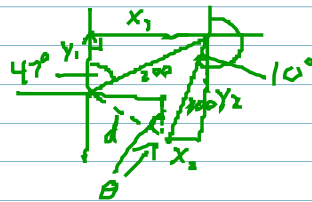
$$x_1 = 146.2707403$$

$$\cos(47^\circ) = \frac{y_1}{200}$$

$$y_1 = 136.399672$$

$$y_1 - y_2 = -159.0426539$$

$$x_1 - x_2 = 94.176287$$



$$\sin(10^\circ) = \frac{x_2}{300}$$

$$x_2 = 52.0944533$$

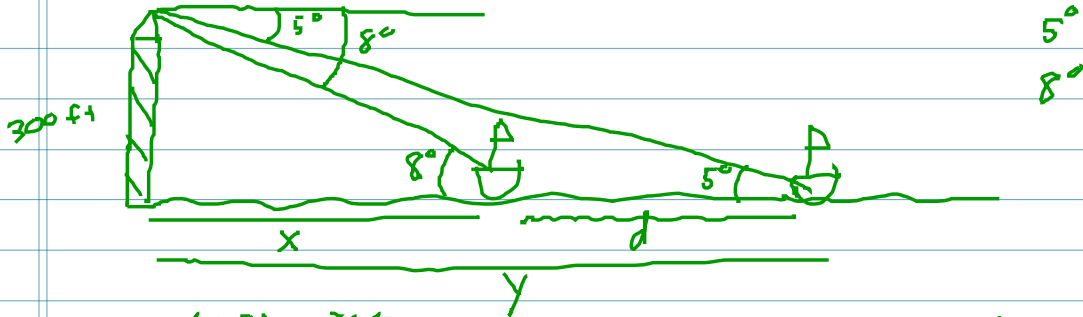
$$\cos(10^\circ) = \frac{y_2}{300}$$

$$y_2 = 295.4423259$$

$$d = \sqrt{(94.176287)^2 + (-159.0426539)^2}$$

$$= 184.834355 \text{ mi}$$

$$\tan(\theta) = \frac{94.176287}{-159.0426539} \quad \theta_2 = 30.63167746^\circ \quad \theta = 329.36832254^\circ \quad \text{N } 31.63^\circ \text{ W}$$



$$\tan(8^\circ) = \frac{300}{x}$$

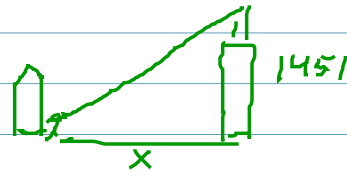
$$x = \frac{300}{\tan(8^\circ)} = 2134.610917 \text{ ft}$$

$$\tan(5^\circ) = \frac{300}{y}$$

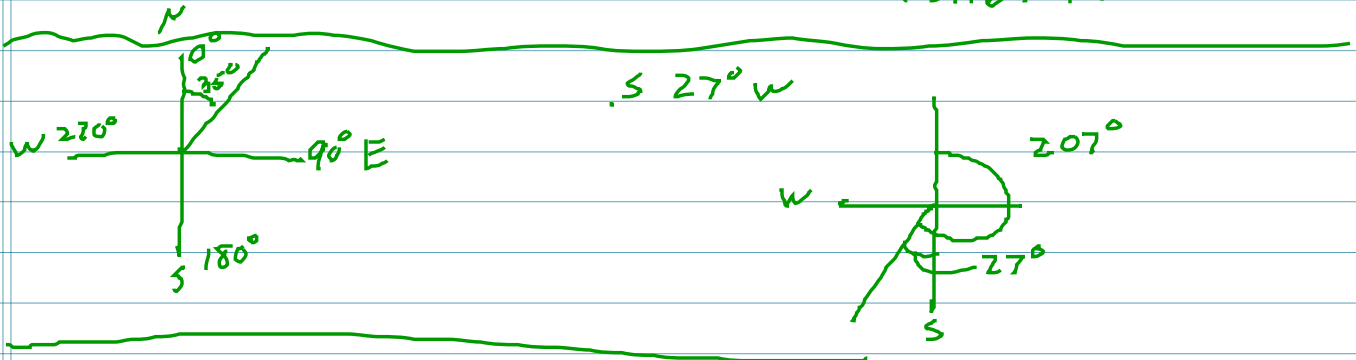
$$y = \frac{300}{\tan(5^\circ)} = 3429.615691 \text{ ft}$$

$$d = y - x = \boxed{1294.404774 \text{ ft}}$$

10.3° [451 ft tall]



$$\tan(10.3^\circ) = \frac{451}{x} \rightarrow x = \frac{451}{\tan(10.3^\circ)} = 2481.69 \text{ ft}$$



47° 200 miles
190° 300 miles

$$\sin(47^\circ) = \frac{x_1}{200}$$

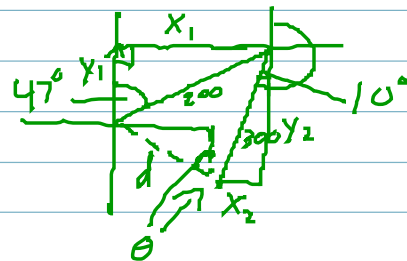
$$x_1 = 146.2707403$$

$$\cos(47^\circ) = \frac{y_1}{200}$$

$$y_1 = 136.349672$$

$$y_1 - y_2 = -159.0426539$$

$$x_1 - x_2 = 94.176287$$



$$\sin(10^\circ) = \frac{x_2}{300}$$

$$x_2 = 52.0944533$$

$$\cos(10^\circ) = \frac{y_2}{300}$$

$$y_2 = 295.4423259$$

$$d = \sqrt{(94.176287)^2 + (-159.0426539)^2}$$

$$= 184.834355 \text{ mi}$$

$$\tan(\theta) = \frac{94.176287}{-159.0426539} \quad \theta_R = 30.63167746^\circ \quad \theta = 329.36832254^\circ \quad N 39.63^\circ W$$