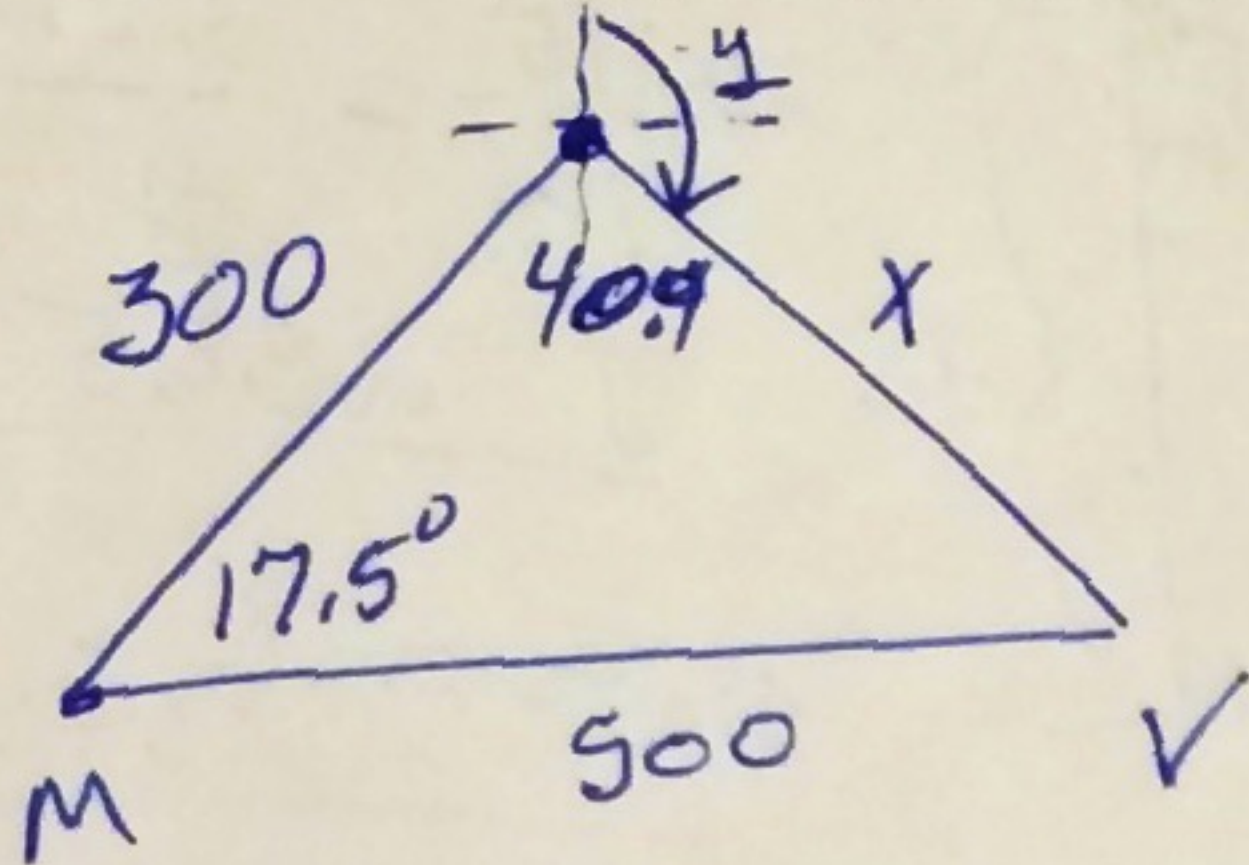


#8 Application Problems

Name

Key

①



$$x^2 = 300^2 + 500^2 - 2(300)(500)\cos 17.5$$

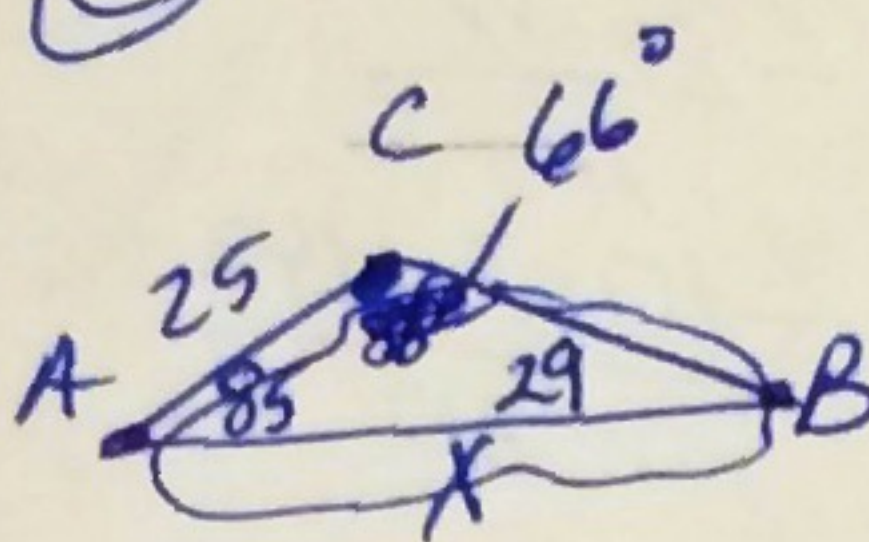
$$x \approx 232.1$$

$$y = 40.4$$

$$\frac{\sin y}{500} = \frac{\sin 17.5}{232.1}$$

$$y = 40.4$$

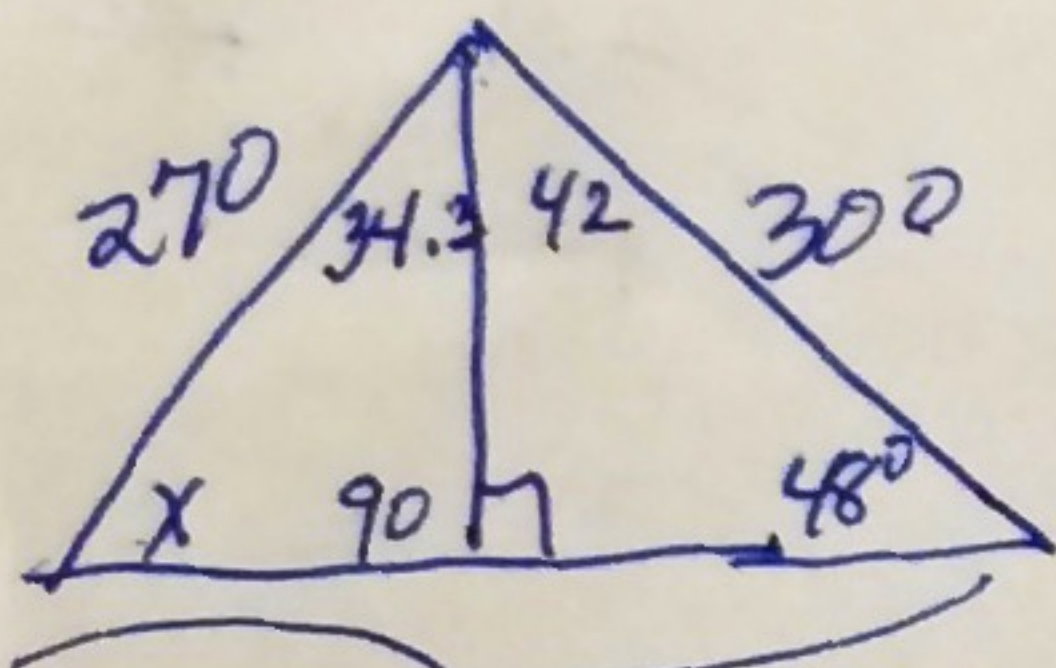
②



$$\frac{\sin 29}{25} = \frac{\sin 66}{x}$$

$$x = 47.1$$

③



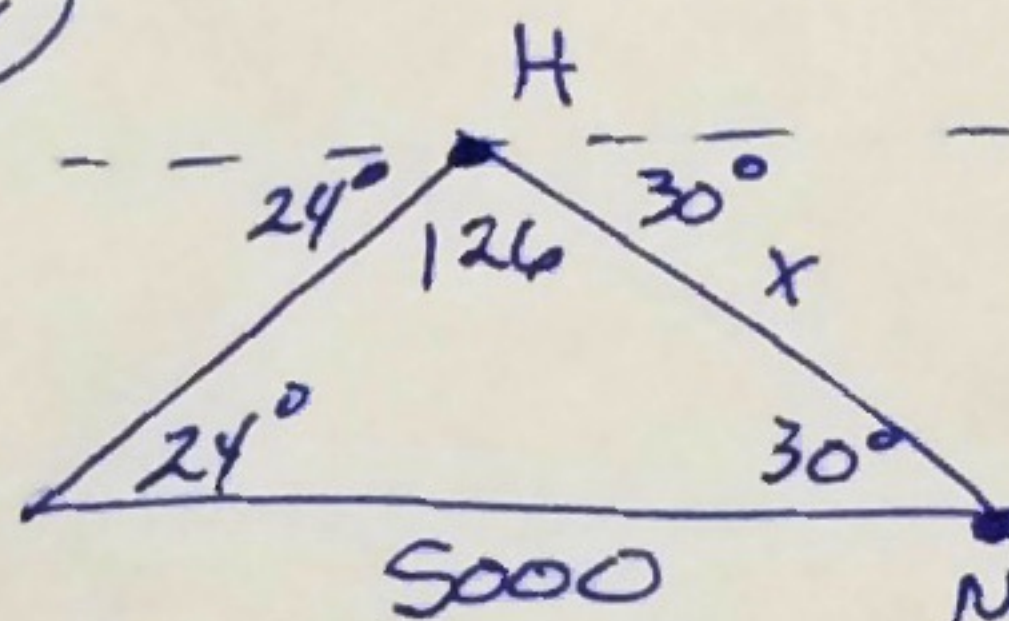
$$\frac{\sin 48}{270} = \frac{\sin x}{300}$$

$$x \approx 55.7^\circ$$

$$\frac{\sin 55.7}{300} = \frac{\sin 76.3}{y}$$

$$y = 352.9$$

④

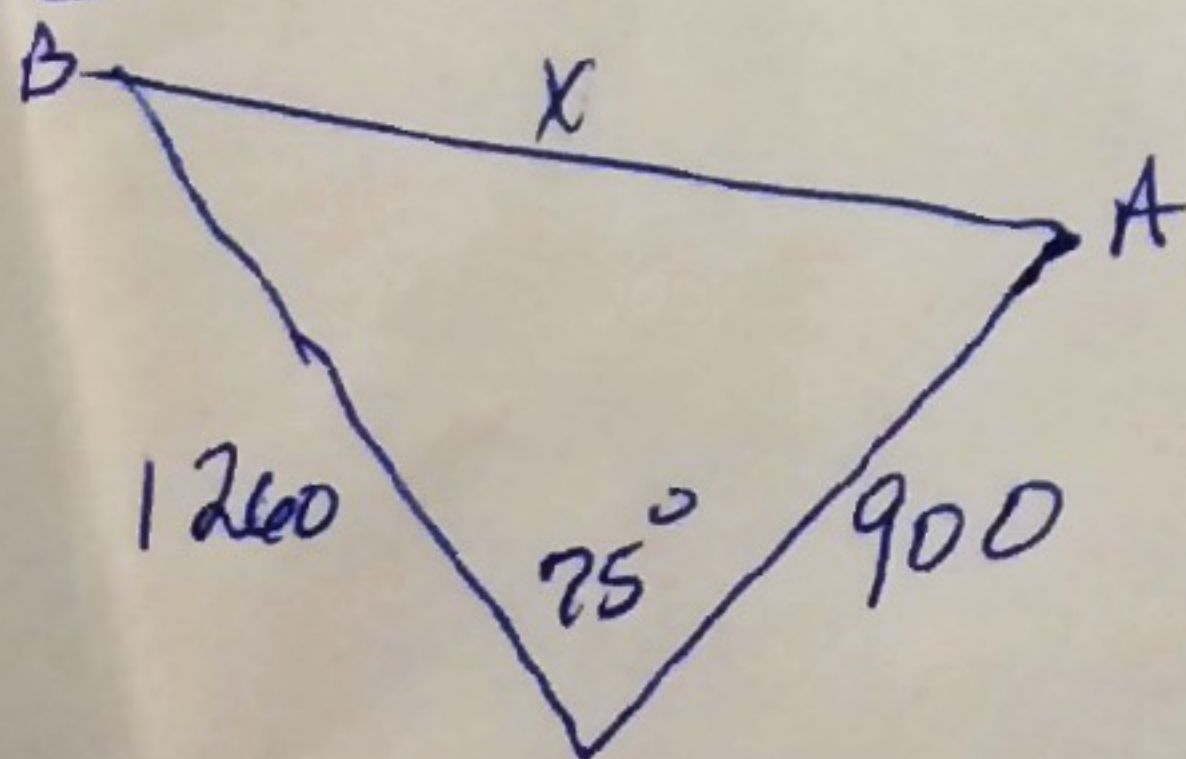


Nearest end makes \angle across ~~sides~~ shortest side

$$\frac{\sin 126}{5000} = \frac{\sin 24}{x}$$

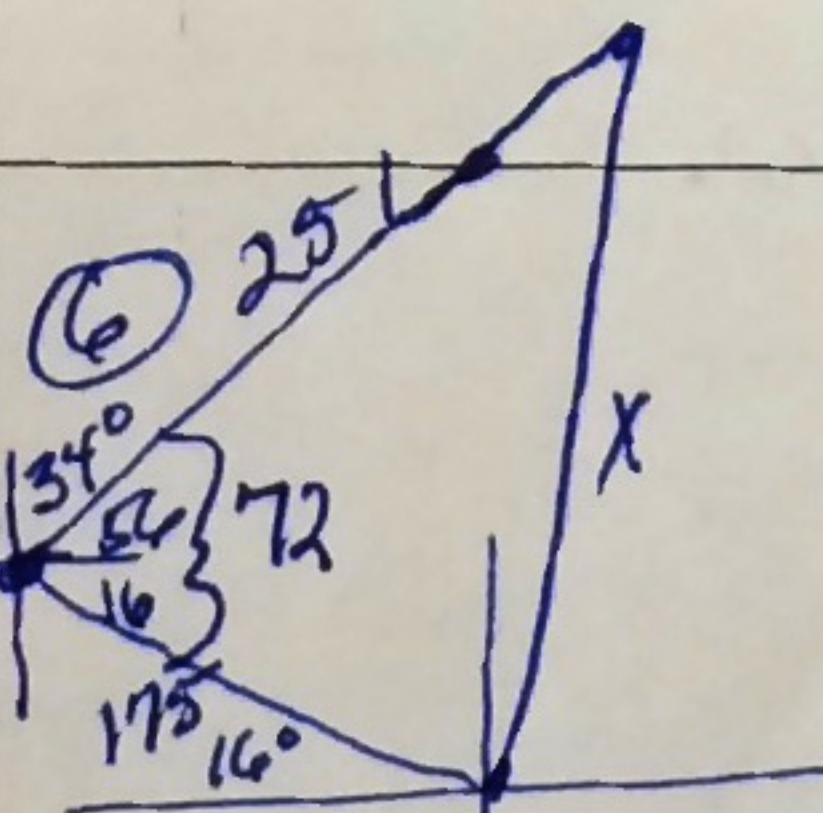
$$x = 2513.8 \text{ ft}$$

⑤



$$x^2 = 1260^2 + 900^2 - 2(1260)(900)\cos 75$$

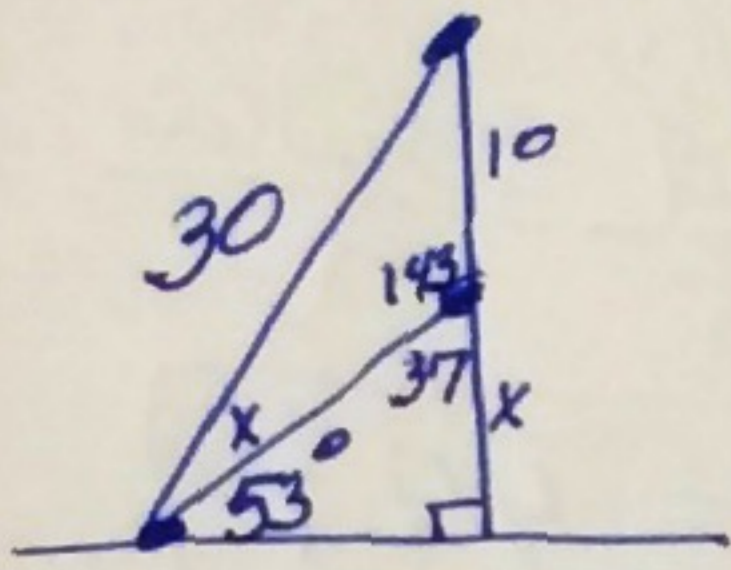
$$x \approx 1345.6 \text{ miles}$$



$$x^2 = 175^2 + 251^2 - 2(175)(251)\cos 72$$

$$x = 257.8$$

⑦



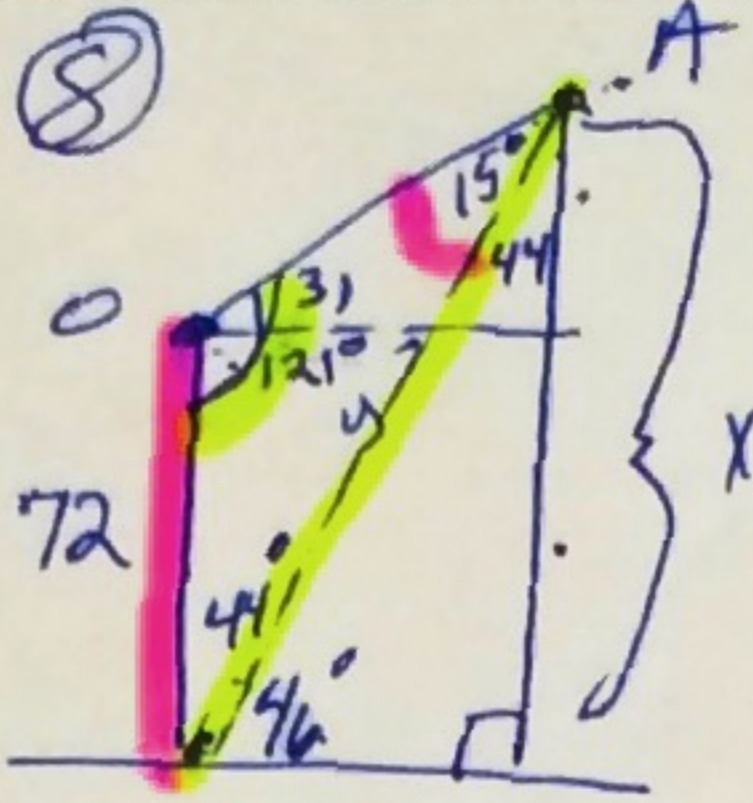
$$\frac{\sin 143}{30} = \frac{\sin x}{10}$$

$$\sin x = \frac{10 \sin 143}{30}$$

$$x \approx 11.6^\circ$$

$$\angle = 64.6^\circ$$

⑧



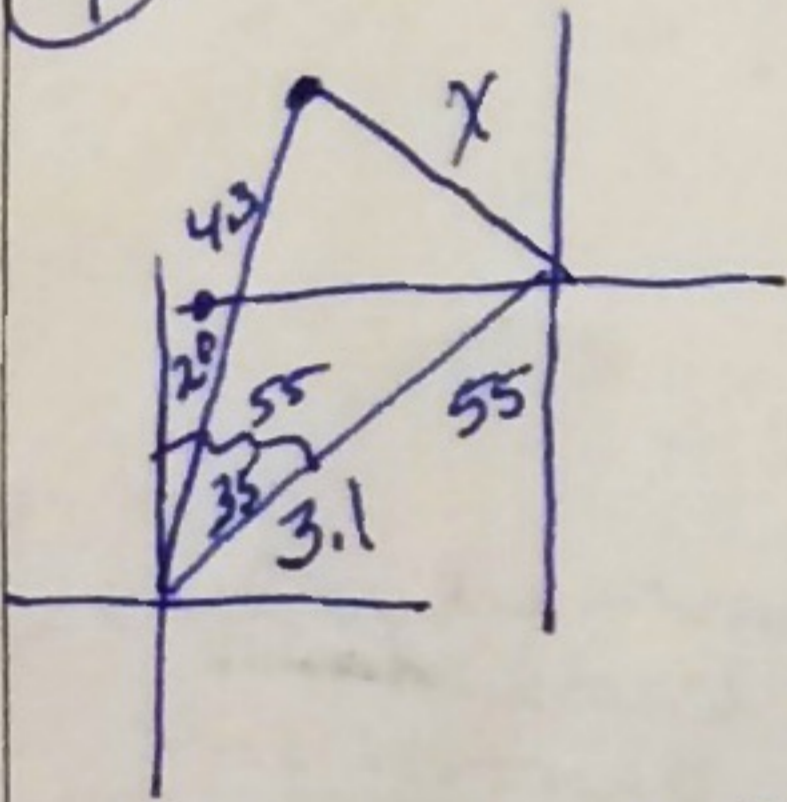
$$\frac{\sin 15}{72} = \frac{\sin 121}{y}$$

$$y = 238.5$$

$$\sin 46 = \frac{x}{238.5}$$

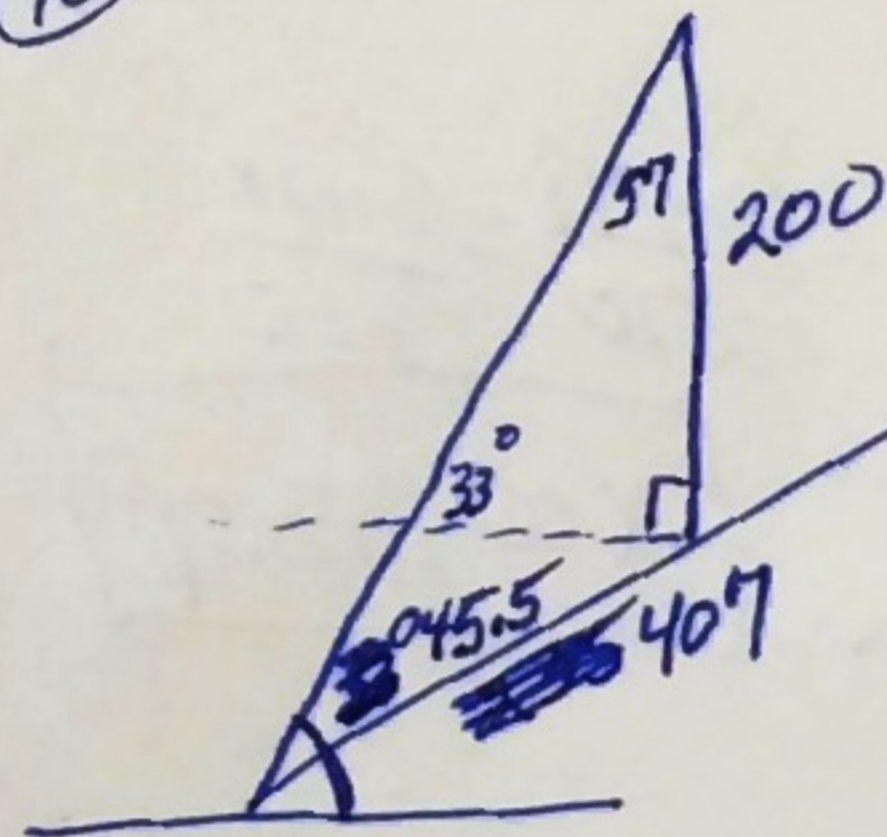
$$x \approx 171.5 \text{ ft}$$

⑨



$$x^2 = 4.3^2 + 3.1^2 - 2(4.3)(3.1) \cos 35$$

⑩



$$\frac{\sin 33}{235} = \frac{\sin 200}{200}$$

$$x =$$

⑪ Pick a problem from HW.

⑫ Pick a problem from HW.