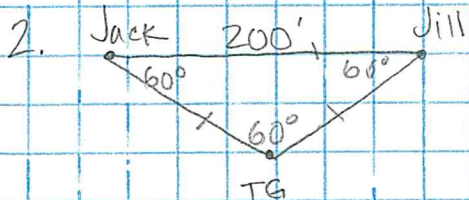
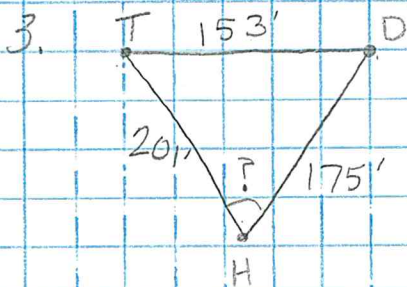


ASA \Rightarrow LoS $\frac{\sin 100^\circ}{10} = \frac{\sin 45^\circ}{X}$

$X = \frac{10 \sin 45^\circ}{\sin 100^\circ} \approx 7.18 \text{ mi}$



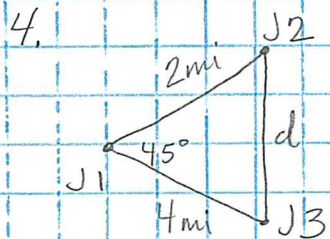
200ft



SSS \Rightarrow LoC

$153^2 = 175^2 + 201^2 - 2(175)(201) \cos H$

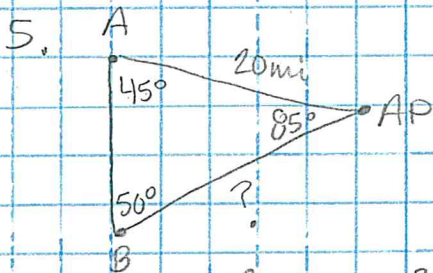
$H = \cos^{-1} \left(\frac{153^2 - 175^2 - 201^2}{-2(175)(201)} \right) \approx 47.401^\circ$



SAS \Rightarrow LoC

$d^2 = 2^2 + 4^2 - 2(2)(4) \cos(45^\circ)$

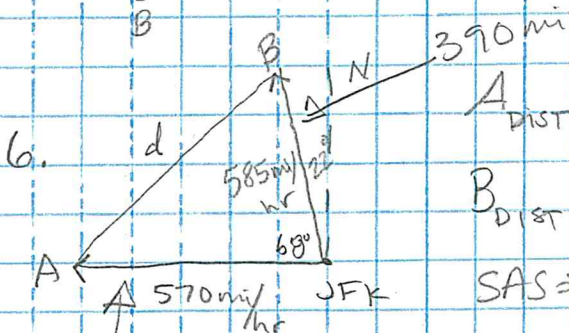
$d \approx 2.947 \text{ mi}$



AAS \Rightarrow LoS

$\frac{\sin 50^\circ}{20} = \frac{\sin 45^\circ}{?}$

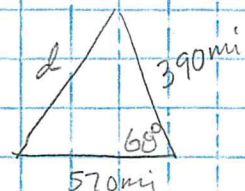
$? = \frac{20 \sin 45^\circ}{\sin 50^\circ} \approx 18.46 \text{ m}$



$A_{\text{DIST}} = 570 \text{ mi/hr} \cdot 1 \text{ hr} = 570 \text{ mi}$

$B_{\text{DIST}} = \frac{585 \text{ mi}}{\text{hr}} \cdot \frac{2 \text{ hr}}{3} = 390 \text{ mi}$

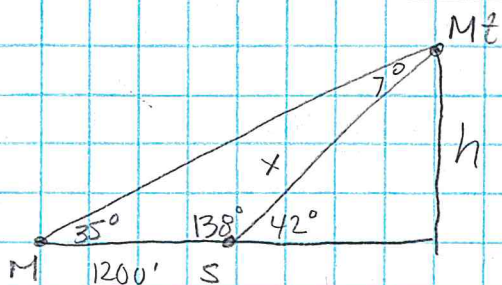
SAS \Rightarrow LoC



560 mi

$d^2 = 570^2 + 390^2 - 2(390)(570) \cos 68^\circ$ $d \approx 557.18$

7.

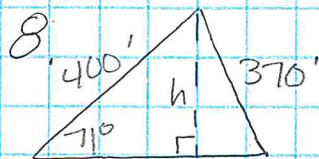
1) Find x ASA \Rightarrow LoS

$$\frac{\sin 3^\circ}{1200} = \frac{\sin 35^\circ}{x} \quad x = \frac{1200 \sin 35^\circ}{\sin 3^\circ}$$

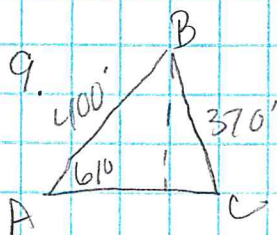
$$x \approx 13151.412 \text{ ft}$$

2) Find $h \Rightarrow$ SohCahToa $\sin 42^\circ = \frac{h}{x}$ $h = x \sin 42^\circ$

$$h \approx 8800.012 \text{ ft}$$

ASS \Rightarrow LoS Ambiguous Case

$$h = 400 \sin 71^\circ \approx 378.21'$$

Because $370' < 378'$, these dimensions do not form a triangle.ASS \Rightarrow LoS Ambiguous Case

$$h = 400 \sin 61^\circ \approx 349.848'$$

Because $400' > 370' > 349.848'$, there are two possible triangles. The agent would need to know the measure of angle C.

$$\frac{\sin 61^\circ}{370} = \frac{\sin C}{400}$$

$$C = \sin^{-1} \left(\frac{400 \sin 61^\circ}{370} \right) \approx 71^\circ$$

$$C' = 180^\circ - 71^\circ = 109^\circ$$

2 possibilities