

#1

1150m

17°

17°

1st

1150 opp

x Adj

Hyp

2nd

1150 opp

Adj

17°

x Hyp

$$\tan 17^\circ = \frac{1150}{x}$$

$$0.3057x = 1150$$

$$\frac{0.3057}{0.3057} \quad \frac{1150}{0.3057}$$

$$x = 3761.5 \text{ m}$$

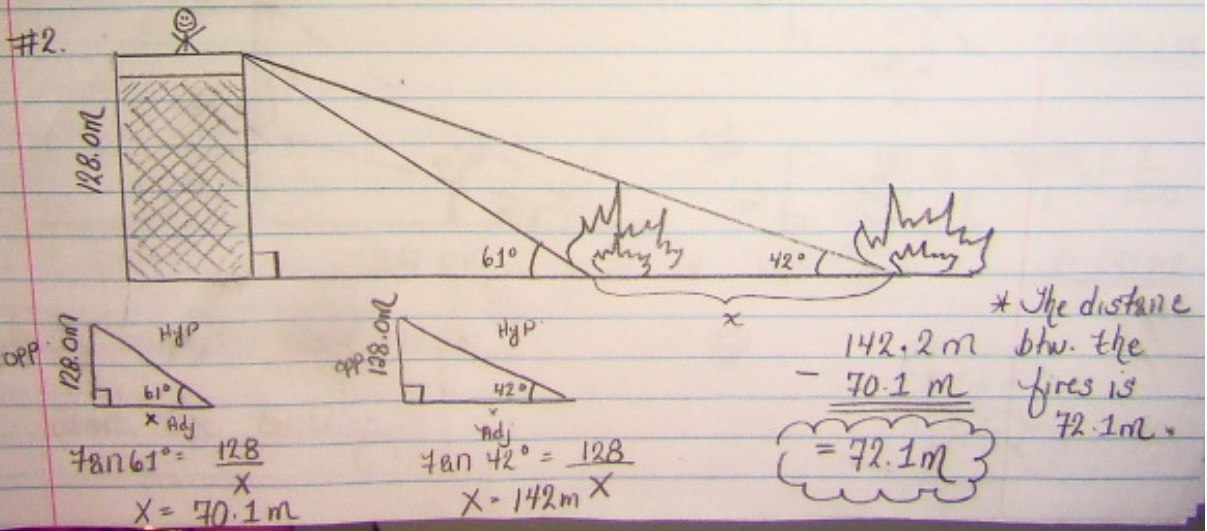
$$\sin 17^\circ = \frac{1150}{x}$$

$$0.2924x = 1150$$

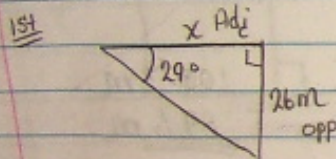
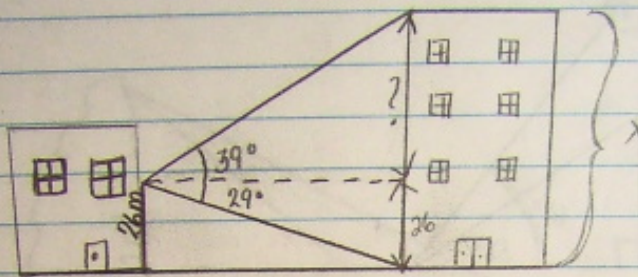
$$\frac{0.2924}{0.2924} \quad \frac{1150}{0.2924}$$

$$x = 3933.3 \text{ m}$$

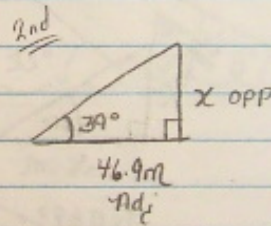
- > The horizontal distance is 3761.5m.
- => The distance btw. the plane and the tower 3933.3m.



#3.



$$\begin{aligned} \tan 29^\circ &= \frac{26}{X} \\ 0.5543X &= 26 \\ 0.5543 & \quad 0.5543 \\ X &= \underline{\underline{46.9m}} \end{aligned}$$



$$\begin{aligned} \tan 39^\circ &= \frac{X}{46.9} \\ 1 & \quad \times \quad 46.9 \\ X &= \underline{\underline{38.0m}} \end{aligned}$$

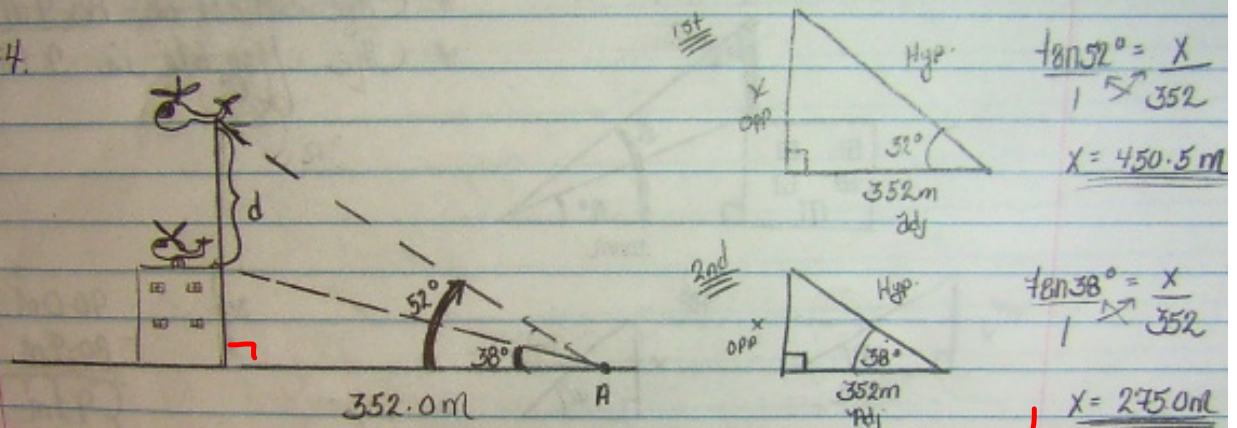
3rd

$$\begin{array}{r} 38.0m \\ 26m \\ \hline 64m \end{array}$$

* The building is 64m tall

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#4.



$$\tan 52^\circ = \frac{X}{352}$$

$$X = 450.5 \text{ m}$$

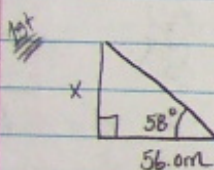
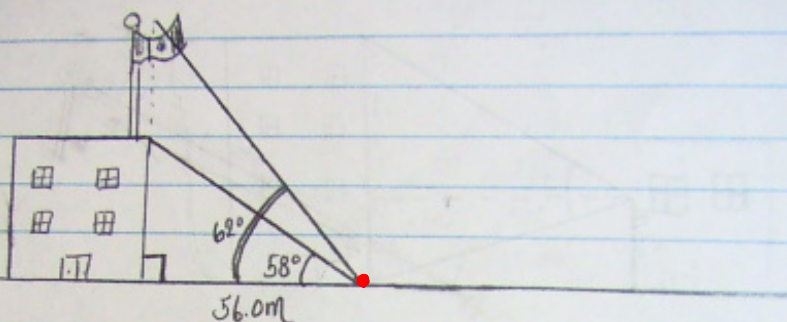
$$\tan 38^\circ = \frac{X}{352}$$

$$X = 275.0 \text{ m}$$

* The helicopter rised 175.5m
Above the building.

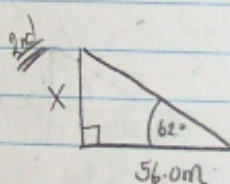
$$\begin{array}{r} 450.5 \text{ m} \\ - 275.0 \text{ m} \\ \hline 175.5 \text{ m} \end{array}$$

#5.



$$\tan 58^\circ = \frac{x}{56.0}$$

$$x = \underline{\underline{89.6 \text{ m}}}$$



$$\tan 62^\circ = \frac{x}{56.0}$$

$$x = \underline{\underline{105.3}}$$

3rd

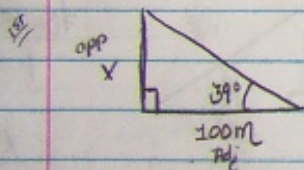
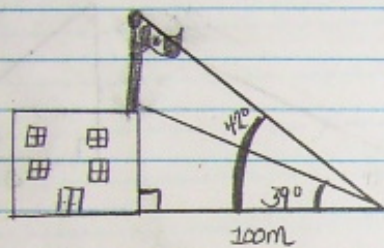
$$\begin{array}{r} 105.3 \text{ m} \\ - 89.6 \text{ m} \\ \hline \end{array}$$

15.7m

* The flagpole is 15.7m long.

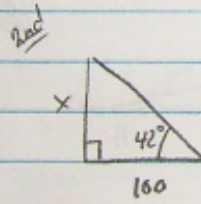
#6.

- * The school is 80.9m high.
- * The flagpole is 9.1m tall.



$$\tan 39^\circ = \frac{x}{100}$$

$$x = 80.9m$$



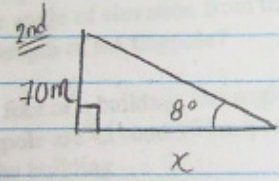
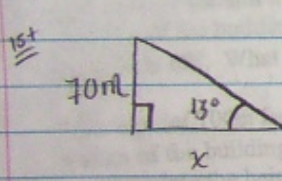
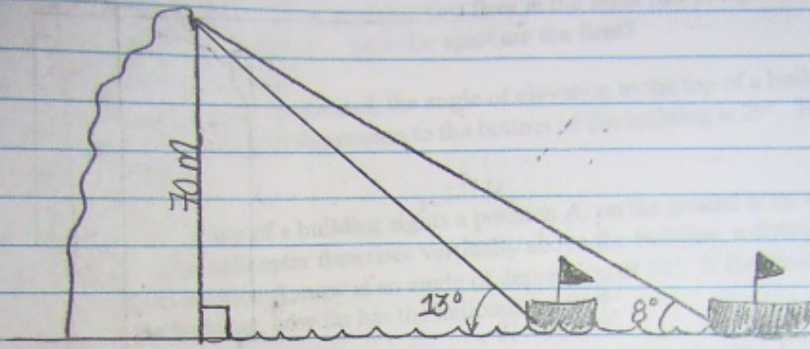
$$\tan 42^\circ = \frac{x}{100}$$

$$x = 90.0m$$

3rd

$$\begin{array}{r} 90.0m \\ - 80.9m \\ \hline 9.1m \end{array}$$

#7.



3rd

$$\tan 13^\circ = \frac{70}{x}$$

$$\frac{0.2309x}{0.2309} = \frac{70}{0.2309}$$

$$x = 303.2 \text{ m}$$

$$\tan 8^\circ = \frac{70}{x}$$

$$\frac{0.1405x}{0.1405} = \frac{70}{0.1405}$$

$$x = 498.1$$

$$\begin{aligned} &498.1 \text{ m} \\ &- 303.2 \text{ m} \\ \hline &194.9 \text{ m} \end{aligned}$$

$$= 194.9 \text{ m}$$