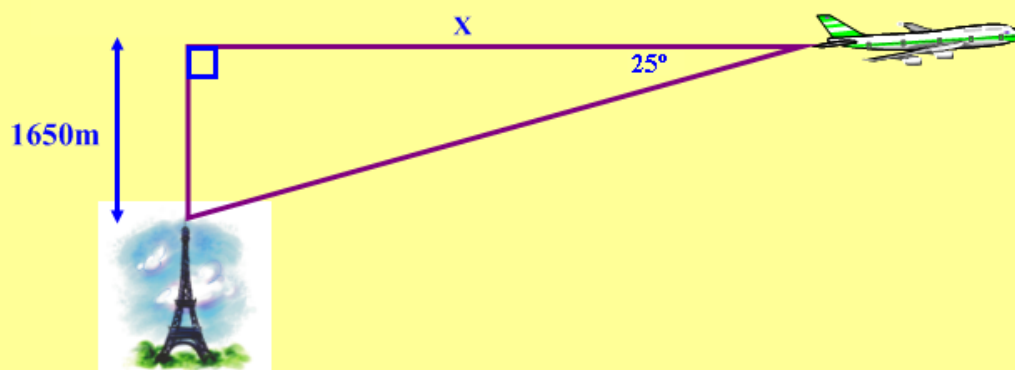


Warm Up Questions !!

- #1 The angle of depression from a plane in the air to the top of a tower is 25° . The altitude of the plane is 1650m higher than the top of the tower. What is the horizontal distance from the plane to the tower?

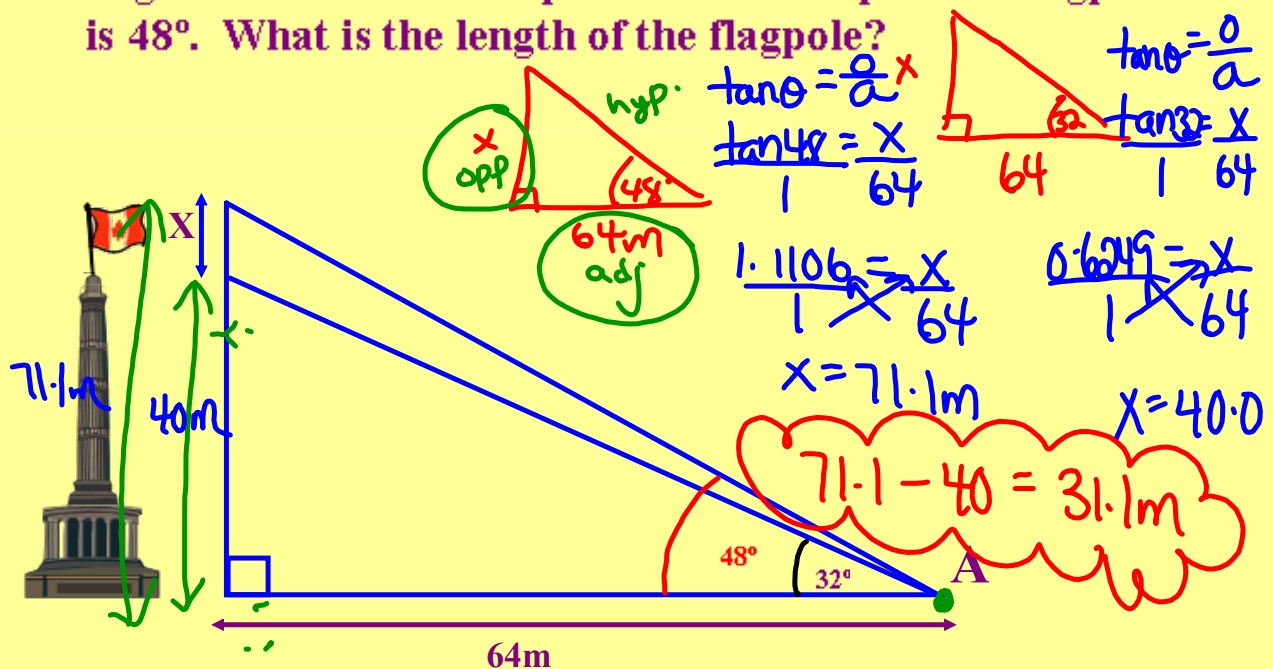


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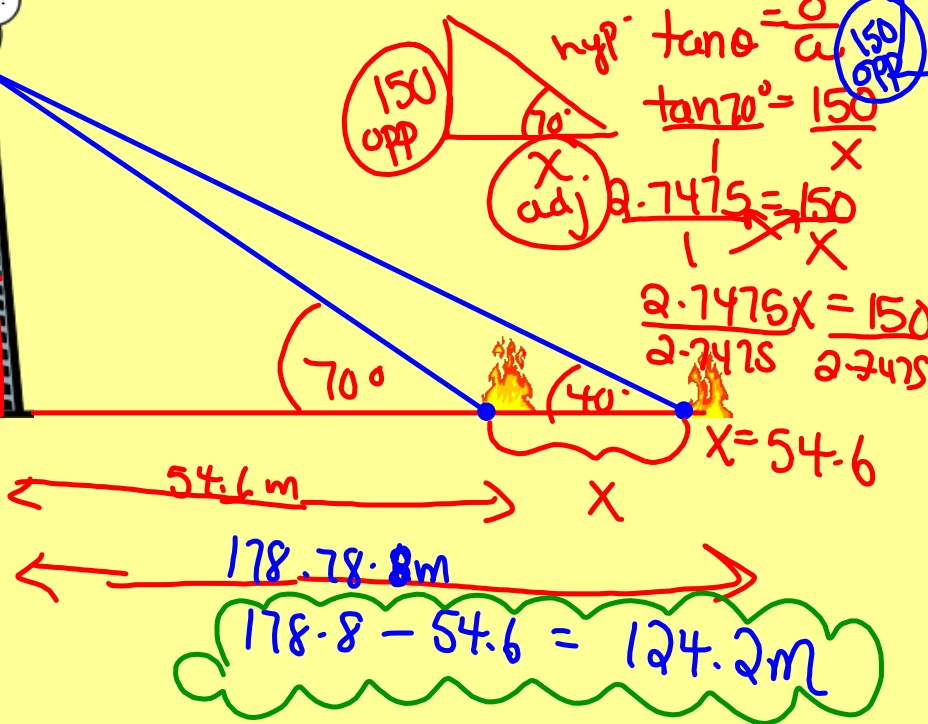
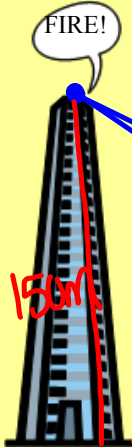
$\tan \theta = \frac{o}{a}$
 $\tan 25^\circ = \frac{1650}{x}$
 $0.4663 = \frac{1650}{x}$
 $0.4663x = 1650$
 $\frac{0.4663x}{0.4663} = \frac{1650}{0.4663}$
 $x = 3538.4m$

#2 The angle of elevation to the top of a building from point A is 32° . Point A is located 64.0m from the base of the building. A flagpole is on the top of the building. The angle of elevation from point A to the top of the flagpole is 48° . What is the length of the flagpole?



Exam Question

A forest ranger in a tower 150m high sights two fires in the same line of sight with the angles of depression of 40 and 70 degrees. How far apart are the fires?



$\tan 70^\circ = \frac{150}{X}$
 $2.7475 = \frac{150}{X}$
 $2.7475X = 150$
 $X = 54.6$

$\tan 40^\circ = \frac{150}{X}$
 $0.8391 = \frac{150}{X}$
 $0.8391X = 150$
 $X = 178.8$

$178.8 - 54.6 = 124.2m$