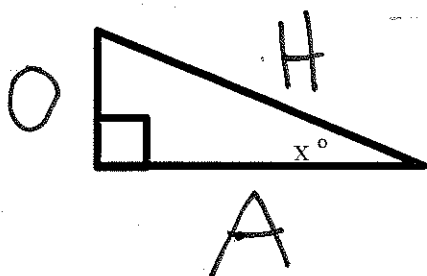
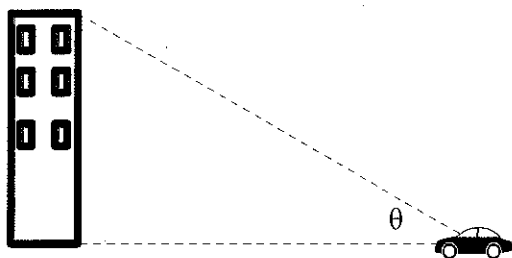


Name: \_\_\_\_\_

1. Label the sides of the following triangle as Opposite, Adjacent, and Hypotenuse for the given angle

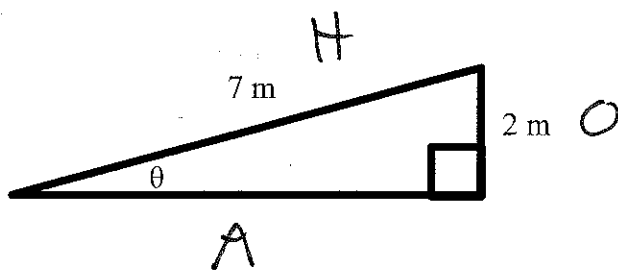


2. Describe what will happen to the measure of the angle of elevation of the car with the top of the building ( $\theta$ ) as it drives toward the building. (Will it increase, decrease or stay the same?)



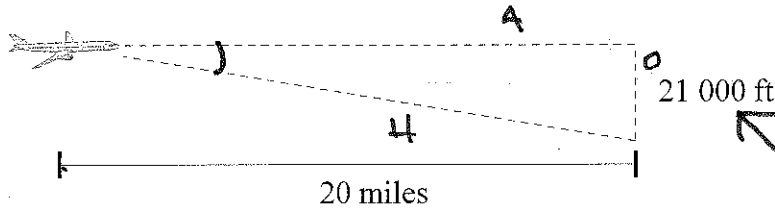
increase

3. Determine the measure of angle  $\theta$



$$\sin \theta = \frac{2}{7}$$
$$\theta = 16.6^\circ$$

4. A plane flying at 21000 feet starts to descend 20 miles from the runway, what will be the angle of depression for the plane?



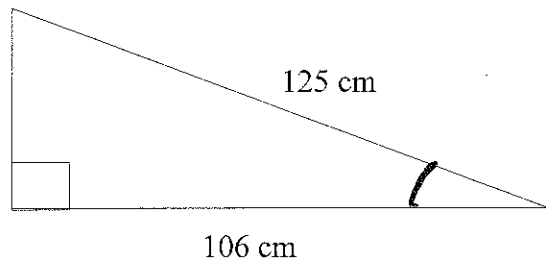
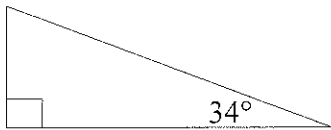
$$\frac{21000 \text{ ft}}{x} = \frac{5280 \text{ ft}}{1 \text{ mi}}$$

$$\tan \theta = \frac{3.9773}{20}$$

$$3.9773 \text{ mi}$$

$$\theta = 11.25^\circ$$

5. Are the following two triangles similar? Explain why or why not.



Triangles are similar if 2 of their angles are the same, since both triangles have a right angle we only need to find out if the angle shown is  $34^\circ$ , (since then 2 angles would be the same)

$$\cos \theta = \frac{106}{125}, \quad \theta = 32^\circ$$

No triangles are not similar