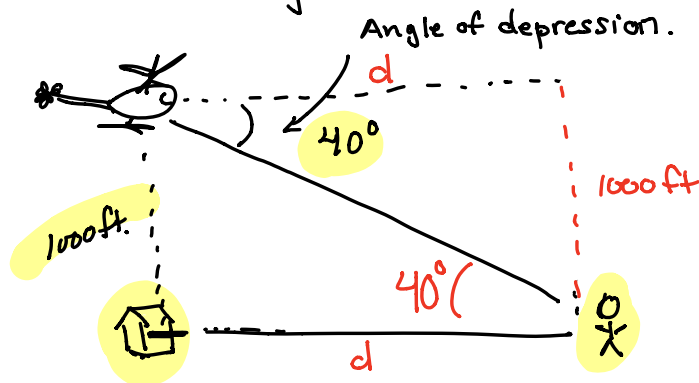


## Applications of trig.

Example:



A helicopter is flying 1000 ft over a building. The pilot spots a person with an angle of depression  $40^\circ$ . How far is the person from the building?

We draw a picture and label it. We define  $d$  to be the distance we seek. We also mark equivalent information (in red) we see

$$\tan 40^\circ = \frac{1000}{d}$$

$$\Rightarrow d \tan 40^\circ = 1000$$

$$\Rightarrow d = \frac{1000}{\tan 40^\circ}$$

$$\approx 1191.8 \text{ ft.}$$

Remark on Vocabulary

