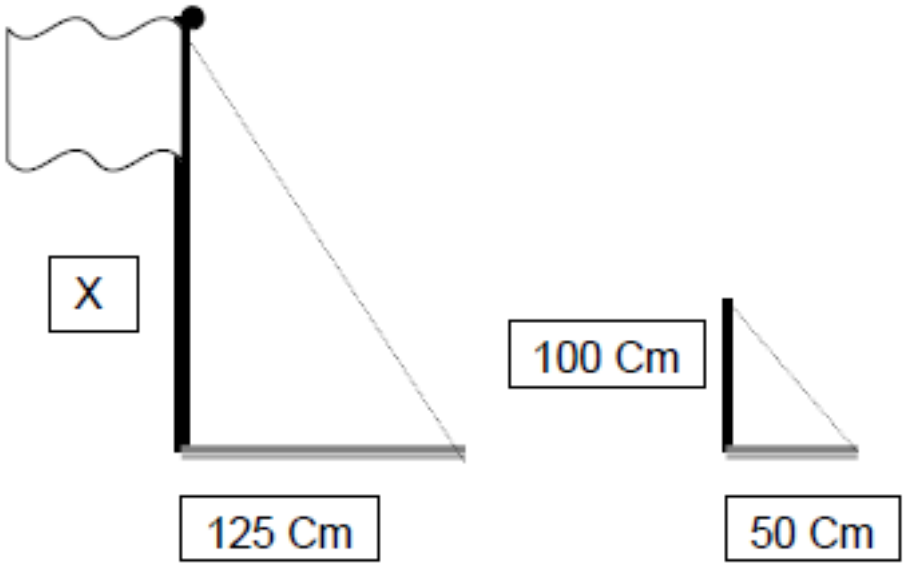
Flagpole Worksheet

Name _____

Date _____



$$\frac{\text{Height of stick}}{\text{Height of flag pole}} = \frac{\text{Meter stick's shadow}}{\text{Flagpole's shadow}}$$

How high is the flagpole?

Solve For x :

$$\frac{100\text{cm}}{x} = \frac{50\text{cm}}{125\text{cm}}$$

Show your work

1. Record your measurements in the chart (use the metric system).

Height of Stick	
Length of Stick's Shadow	
Length of Flagpole's Shadow	

2. Draw a sketch that shows that the two similar triangles. Be sure to label your sketch with your measurements recorded above. Label the missing measurement as x.

3. Use shadow reckoning to find the height of the flagpole (x). Set up your proportion in the space provided, and solve.

4. The height of the flagpole is approximately _____ centimeters.
5. The height of the flagpole is approximately _____ meters.
6. The height of the flagpole is approximately _____ inches.
7. The height of the flagpole is approximately _____ feet.
8. The Marines on the Maintop cast a shadow 127.5 feet long onto the spar deck of *Constitution*. On the spar deck at the same time of day, a sailor who is 6 feet tall casts a shadow that is 9 feet long. How high are the Marines on the Maintop?

Compare your answer above to the height of the flagpole. Is it taller or shorter? Can you imagine being a Marine on the Maintop during a battle at sea that high above the ground?