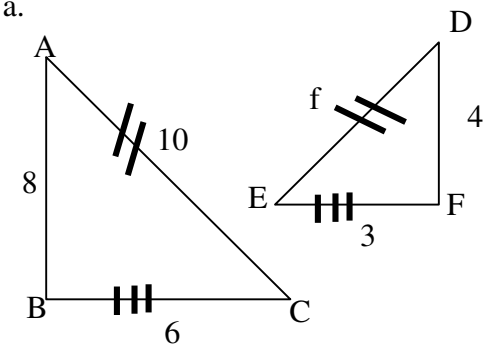
Grade 10 Essential
Similar Triangles

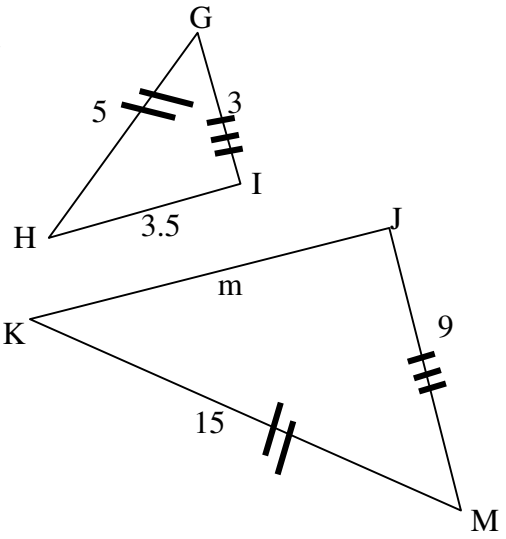
Name: _____

1. Find the indicated unknown sides in each pair of similar triangles. Round final answers to nearest 0.01.

a.



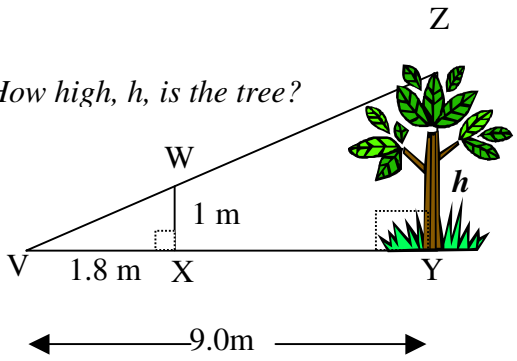
b.



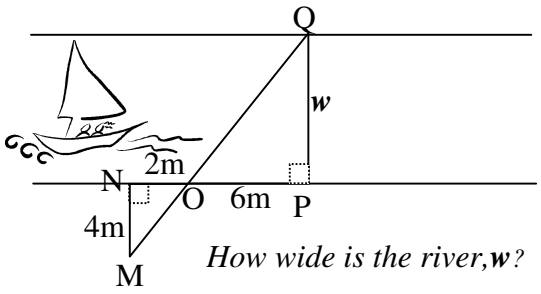
2. *Identify* corresponding sides in each pair of triangles. *Then find* the unknown length.

a.

How high, h, is the tree?

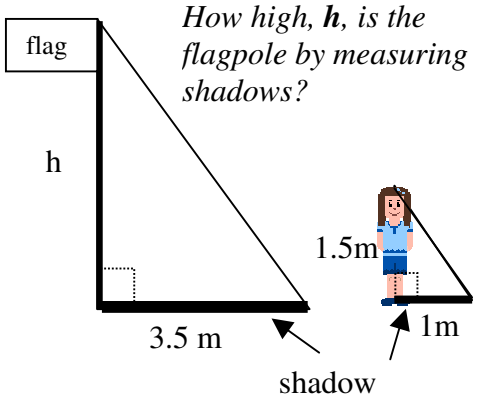


b.



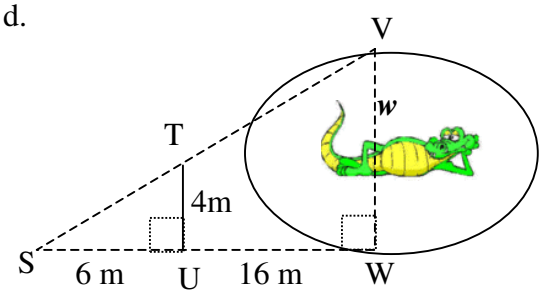
*How wide is the river, **w**?*

c.



*How high, **h**, is the flagpole by measuring shadows?*

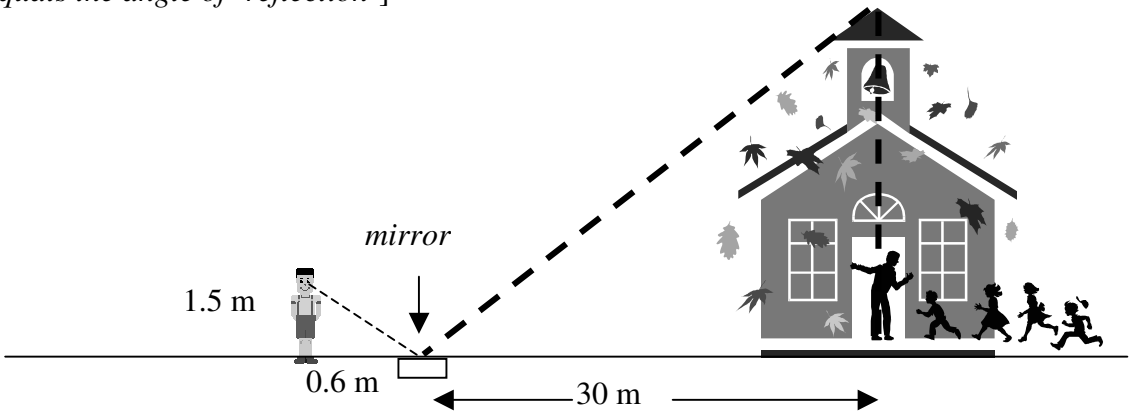
d.



*How wide, **w**, is the alligator pond?*

3. A person 165 cm tall casts a shadow 40cm long. A utility pole casts a shadow of 3 m at the same time of day. How tall is the utility pole?

4. Andrew places a mirror on the ground 30 m from a building. When he stands **0.6 m** away from the mirror, he can see the reflection of the top of the building in the mirror. How tall is the building, given that Andrew's eyes are 1.5 meters above the ground. [*Hint: remember some science? Light is always reflected so that the angle of 'incidence' equals the angle of 'reflection'*]



5. A flagpole casts a shadow that is **4.2 m** long at the same time that a **metre** stick casts a shadow that is **0.7 m** long. How tall is the flagpole?

Bonus question: Don't forget, formulas usually have some '*fine print*'; have you made any *assumptions* in solving this problem?