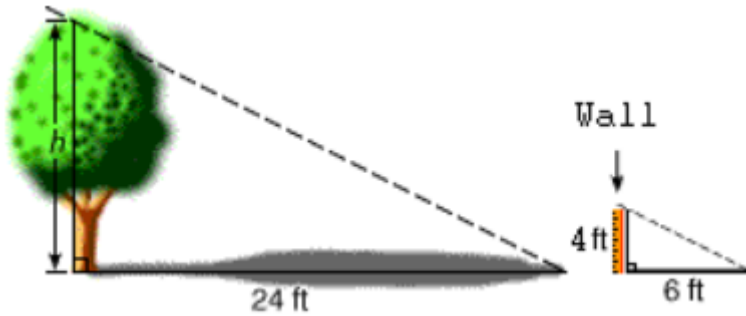
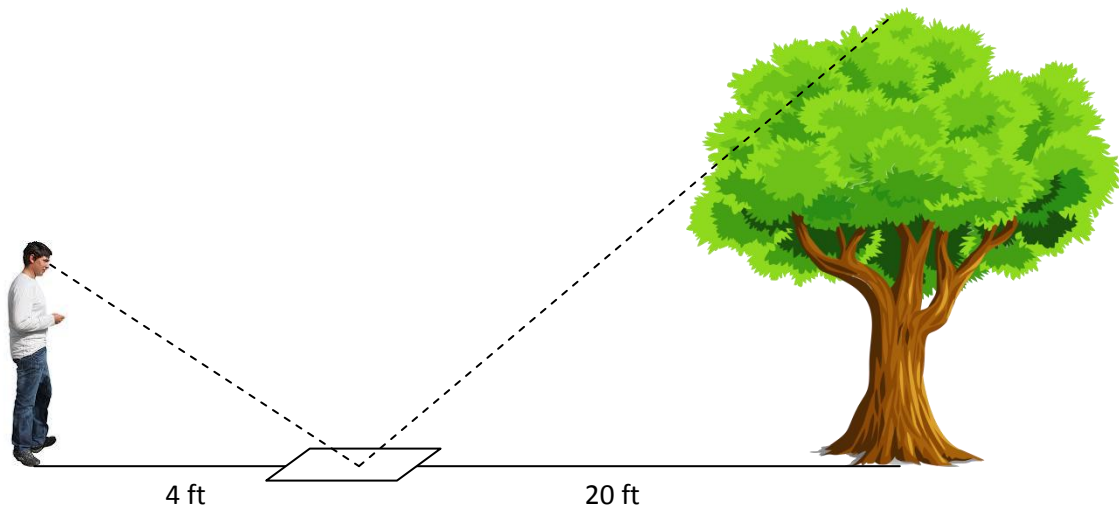


Topic 23: Similar Triangles

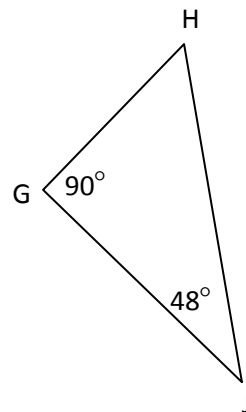
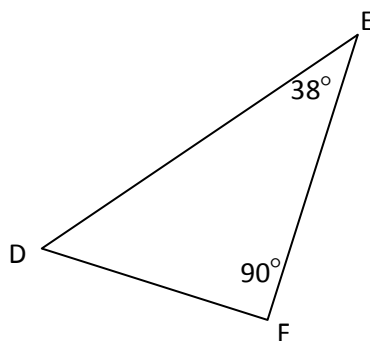
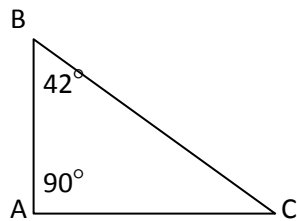
1) The sun rays for the same angle from the top of the tree as the top of the wall. As long as two triangles have 2 angles that are the same, the triangles will be similar. (AA Similarity Postulate). This means that you can calculate the high of the tree by measuring the shadow and the height of the wall. Compute the height of the tree in this problem.



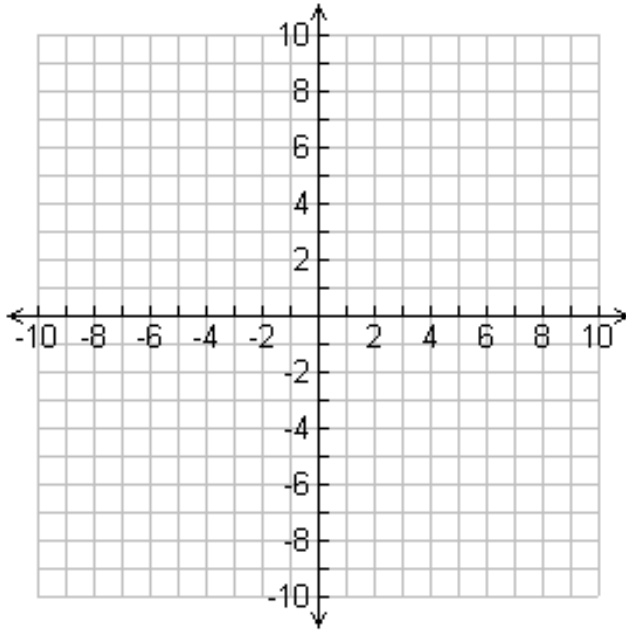
2) A man places a mirror on the ground and aligns it to see the top of the tree. He has in effect, created a line of sight that creates two similar triangles. The man's eyes are 6 feet from the ground. Set up the proportions and solve for the height of the tree.



3) Which two triangles are similar? Why?



4) Graph triangle A (-5,7), B (-3,7) & C (-3,3)



a) Reflect triangle ABC across the Y-axis: A' (,) B' (,) C' (,)

b) Now Reflect triangle $A'B'C'$ across the X-axis: A'' (,) B'' (,) C'' (,)

c) Now translate triangle $A''B''C'' \rightarrow (x-8, y+1)$: A''' (,) B''' (,) C''' (,)

c) Now keep point C''' constant (AKA Central) and rescale (dilate) the figure to twice the size:

A'''' (,) B'''' (,) C'''' (,)