

Accelerated Geometry - Day 63 - Geometric Mean - Board Problems

Give students worksheet with right triangle with altitude.

Ask how many triangles are in the picture. (3)

1.) First person, first marker:

Ask students to pull them apart and line three triangles up so they go large, medium, and small.

Draw it clearly as to which is the largest, medium, and smallest sides.

Include the side labels as letters.

In the middle of each, write large, medium, and small.

2.) New person, new marker:

Write the ratios in order for the large tri: med tri: small tri for the side ratios of **short:long**

Answer: $b/a = h/y = x/h$

Can you find a geometric mean there?

Answer: **H is the geo mean**. Circle it in your proportion. Circle it in the picture.

Write the equation using a proportion: $h/y = x/h$ so $h^2 = xy$

3.) Keep everything on board: new person, new marker:

Write the ratios in order for the large tri: med tri: small tri for the side ratios of **hyp:short**

Answer: $c/b = a/h = b/x$

Can you find the geometric mean there?

Answer: **B is the geo mean**. Circle it in your proportion. Circle it in the picture.

Write the equation using a proportion: $c/b = b/x$ so $b^2 = xc$

4.) Keep everything on the board: new person, new marker:

Write the ratios in order for the large tri: med tri: small tri for the side ratios of **hyp:long**

Answer: $c/a = a/y = b/h$

Can you find the geometric mean here?

Answer: **A is the geo mean**. Circle it in your proportion. Circle it in the picture.

Write the equation using a proportion: $c/a = a/y$ so $a^2 = cy$