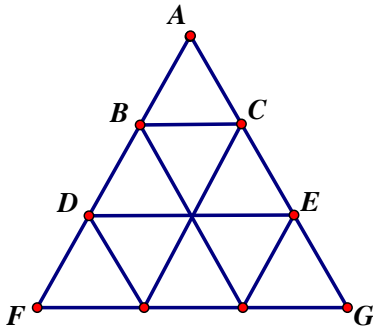


Similarity: I need a challenge!

1. A photograph with width 3 in and height 5 in is being enlarged into a poster. The new width will be 1 ft 3 in. What will the new height be?

Tara Patel 6/17/14 2:14 PM
Comment [1]: 2ft 1 in

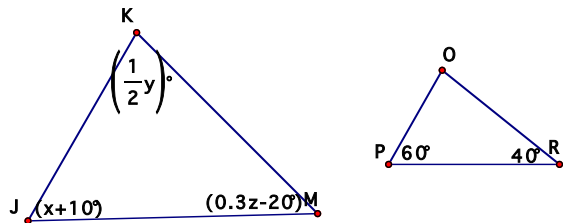
2. Triangles ABC and AFG are similar. $AB = BD = DF$.



- a) Find the ratio of $AB:AF$
- b) Find the ratio of $AC:AG$
- c) Find the ratio of $BC:FG$
- d) If the area of triangle ABC is 1, what is the area of triangle AFG?

Tara Patel 6/17/14 2:14 PM
Comment [2]: a)1:3
 b)1:3
 c)1:3
 d)9

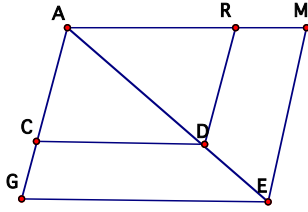
3. Triangles KJM and OPR are similar with angles shown. Find $\frac{x+y+z}{2}$.



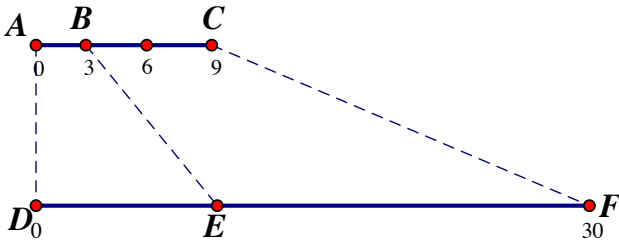
Tara Patel 6/17/14 2:14 PM
Comment [3]: 205

4. CARD and GAME are parallelograms. The perimeter of GAME is 48. $AD:DE = 2:1$. Find the perimeter of CARD.

Tara Patel 6/17/14 2:14 PM
Comment [4]: 32



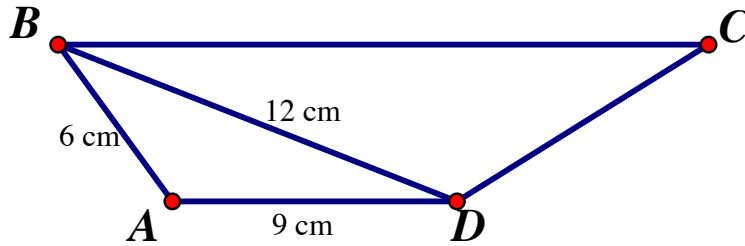
5. DF is an enlargement of AC. If AC is 9 units long and DF is 30 units long, how long is DE?



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Comment [5]: 10 units

6. The trapezoid below was created by joining two similar triangles. What is the perimeter of the quadrilateral?



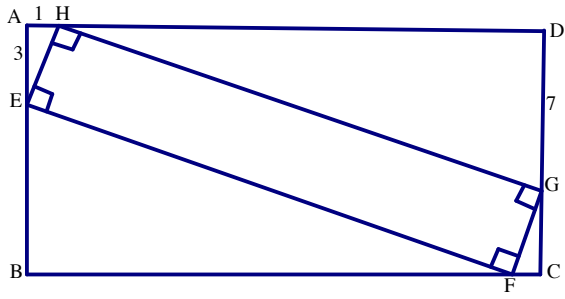
Tara Patel 6/17/14 2:14 PM

Comment [6]: Corresponding sides are proportional:
 $\frac{AB}{CD} = \frac{AD}{BD} = \frac{BD}{BC}$ so $\frac{6}{CD} = \frac{9}{12} = \frac{12}{BC}$
 . Solving the proportions gives us $CD = 8$ and $BC = 16$, so the perimeter of the trapezoid is 39cm.

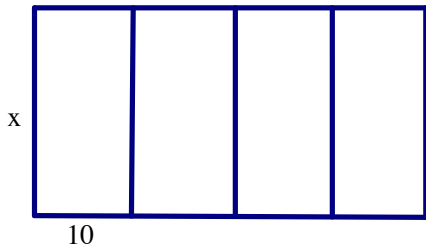
7. ABCD and EFGH are rectangles, AE = 3, AH = 1, and DG = 7. What is the area of rectangle EFGH?

Tara Patel 6/17/14 2:14 PM

Comment [7]: 70
 The solution requires students to recognize that the small triangles and the larger triangles are similar. You can work out the lengths of the inner rectangle using this similarity and without needing Pythagorean Theorem.



8. The card shown was cut into four congruent pieces with each piece similar to the original. Find the value of x .



Tara Patel 6/17/14 2:14 PM
 Comment [8]: $x = 20$