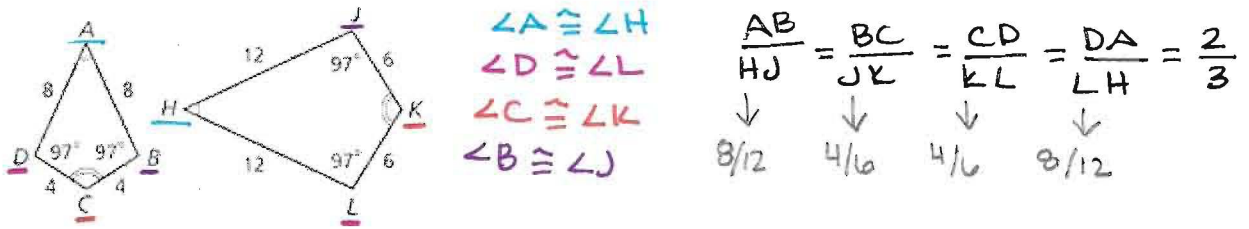
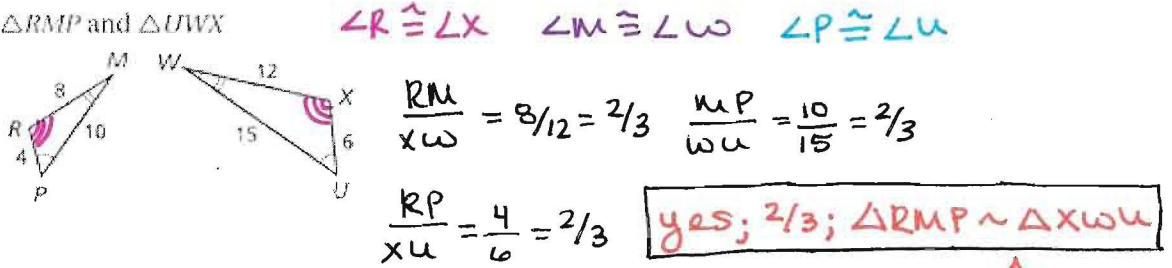


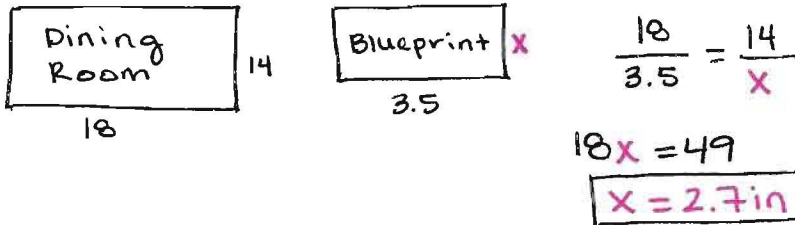
1. Identify the pairs of congruent angles and corresponding sides.



2. Determine whether the polygons are similar. If so, write the similarity ratio and similarity statement. $\triangle RMP$ and $\triangle UWX$



3. A dining room is 18ft long and 14ft wide. On a blueprint for the house, the dining room is 3.5in long. To the nearest tenth of an inch, what is the width of the dining room on the blueprint?

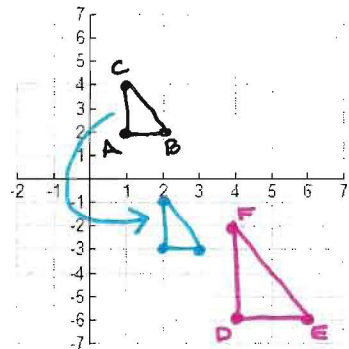


*make sure your Δ s match up.

4. Determine whether the polygons with the given vertices are similar. (Can the pre-image be mapped to the image?)

$A(1, 2), B(2, 2), C(1, 4)$ and $D(4, -6), E(6, -6), F(4, -2)$.

all divisible by 2
 \downarrow
 $(2, -3) (3, -3) (2, -1)$

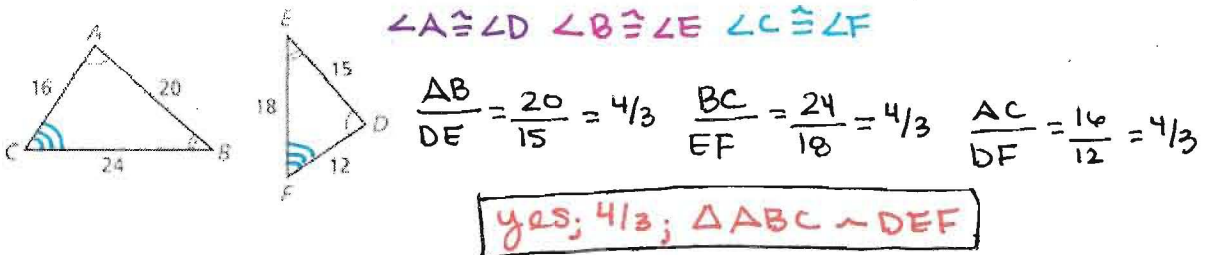


1st: $(x+1, y-5)$
2nd: $(x, y) \rightarrow (2x, 2y)$

5. Apply the dilation D to the polygon with the given vertices. Describe the dilation.

$D: (x, y) \rightarrow \left(\frac{3}{4}x, \frac{3}{4}y\right)$
 $P(-8, 4), Q(-4, 8), R(4, 4)$
 $P'(-6, 3), Q'(-3, 6), R'(3, 3)$
Scale factor = $3/4$

6. Determine if $\triangle ABC \sim \triangle DEF$. If so, write the similarity ratio and a similarity statement.

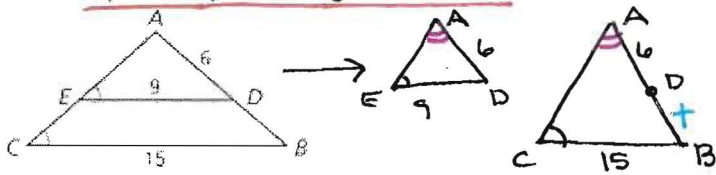


7. Figure ABCD with vertices given below is translated 6 units left and 7 units down. It is then dilated to produce the similar figure EFGH with the vertices given below. By what scale is the figure dilated?

$A(10, 15), B(14, 7), C(6, 7), D(6, 11) \rightarrow A'(4, 8) B'(8, 0) C'(0, 0) D'(0, 4)$
 $E(5, 10), F(10, 0), G(0, 0), H(0, 5)$
 Old New

$A'B'C'D' \rightarrow EFGH$: scale factor = $\frac{\text{new}}{\text{old}} = \frac{5}{4} = 1.25$ ✓

8. Explain why the triangles are similar and then find the length of AB.

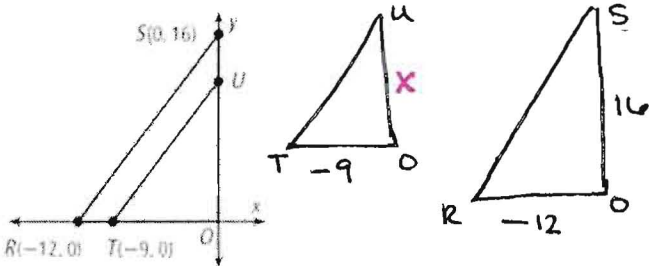


$\angle A \cong \angle A$ $\triangle AED \sim \triangle ACB$ by AA
 $\angle E \cong \angle C$

$\frac{AD}{AB} = \frac{ED}{CB}$
 $\frac{6}{x+6} = \frac{9}{15}$
 $9(x+6) = 90$
 $9x + 54 = 90$

$9x = 36$
 $x = 4$
 $AB = x + 6$
 $AB = 4 + 6$
 $AB = 10$

9. Given that $\triangle TUO \sim \triangle RSO$, find the coordinates of U and the scale factor.

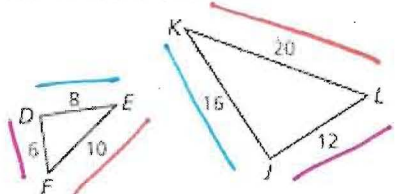


$\frac{x}{16} = \frac{-9}{-12}$
 $-12x = -144$
 $x = 12$
 $U = (0, 12)$

scale factor
 $= \frac{\text{new}}{\text{old}} = \frac{16}{12}$
 $= \frac{4}{3}$

10. Verify that the triangles are similar. *might be helpful to re-draw the Δ s.

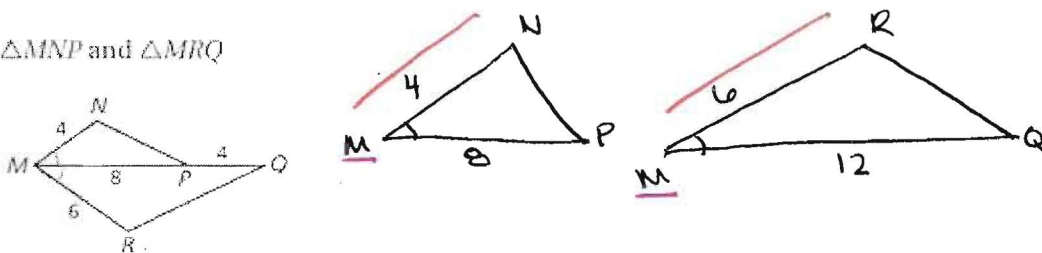
- a) $\triangle DEF$ and $\triangle JKL$.



$\triangle DEF \sim \triangle JKL$ by SSS.

$\frac{DF}{JL} = \frac{6}{12} = \frac{1}{2}$ $\frac{DE}{JK} = \frac{8}{16} = \frac{1}{2}$ $\frac{FE}{LK} = \frac{10}{20} = \frac{1}{2}$

- b) $\triangle MNP$ and $\triangle MRQ$



$\frac{MN}{MR} = \frac{4}{6} = \frac{2}{3}$ $\angle M \cong \angle M$ $\frac{MP}{MQ} = \frac{8}{12} = \frac{2}{3}$

$\triangle MNP \sim \triangle MRQ$
by SAS.