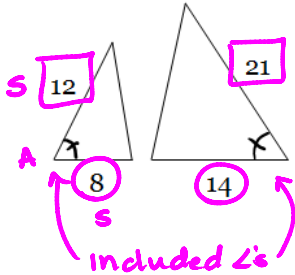


CHAPTER 7 SIMILARITY & CHAPTER 9 TRANSFORMATIONS

CHAPTER 7: SIMILARITY

1. Are the  $\Delta$ 's similar? If so, by what method?

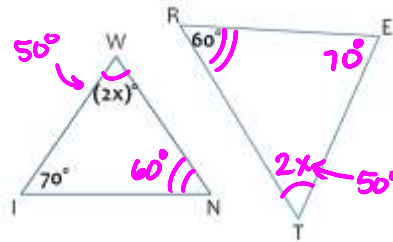


$$\frac{8}{14} \stackrel{?}{=} \frac{12}{21}$$

$$\frac{4}{7} = \frac{4}{7} \checkmark$$

Yes, by SAS~

2.  $\Delta WIN \sim \Delta TER$ . Find the value of x.



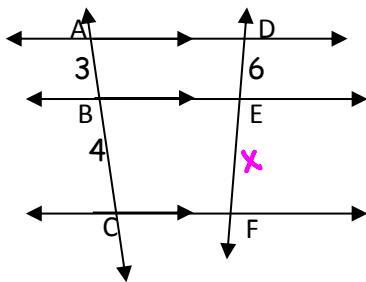
$$2x + 60 + 70 = 180$$

$$2x + 130 = 180$$

$$2x = 50$$

$$x = 25$$

3. Given the diagram below, find EF.



~~$$\frac{3}{4} = \frac{6}{x}$$~~ or ~~$$\frac{3}{6} = \frac{4}{x}$$~~

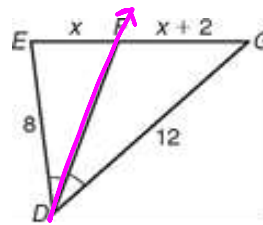
$$3x = 24$$

$$x = 8$$

$$EF = 8$$

\* what if I asked for DF?  $DF = 14$

4. Given the diagram, find FG.



$$\frac{x}{8} = \frac{x+2}{12}$$

$$12x = 8(x+2)$$

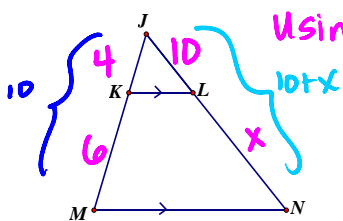
$$12x = 8x + 16$$

$$4x = 16$$

$$x = 4$$

$$FG = 4 + 2 \text{ so } FG = 6$$

5. Given the diagram below and JK = 4, KM = 6, and JL = 10, find LN.



Using  $\Delta$  prop. Thm: (short cut)

$$\frac{4}{6} = \frac{10}{x} \text{ or } \frac{4}{10} = \frac{6}{x}$$

$$4x = 60$$

$$x = 15$$

$$\text{so } LN = 15$$

Using ~ $\Delta$ 's:

$$\frac{4}{10} = \frac{10}{10+x} \rightarrow 4(10+x) = 100$$

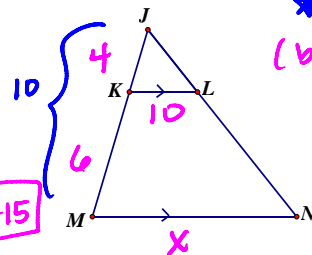
$$40 + 4x = 100$$

$$4x = 60$$

$$x = 15$$

$$\text{so } LN = 15$$

6. Given the diagram below and JK = 4, KM = 6, and KL = 10, find MN.



\* can only use ~ $\Delta$ 's \*  
(b/c looking for entire side of  $\Delta$ )

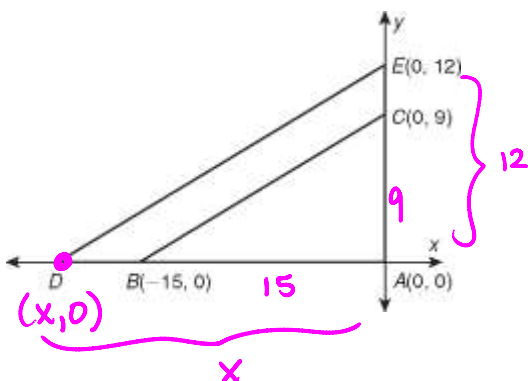
$$\frac{4}{10} = \frac{10}{x}$$

$$4x = 100$$

$$x = 25$$

$$\text{so } MN = 25$$

7. Given that  $\Delta ABC \sim \Delta ADE$ , find the coordinates of D.



$$\frac{9}{12} = \frac{15}{x}$$

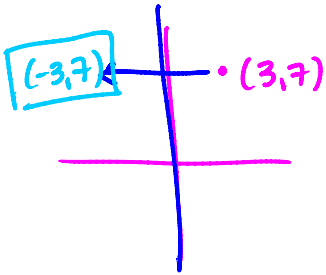
$$9x = 180$$

$$x = 20$$

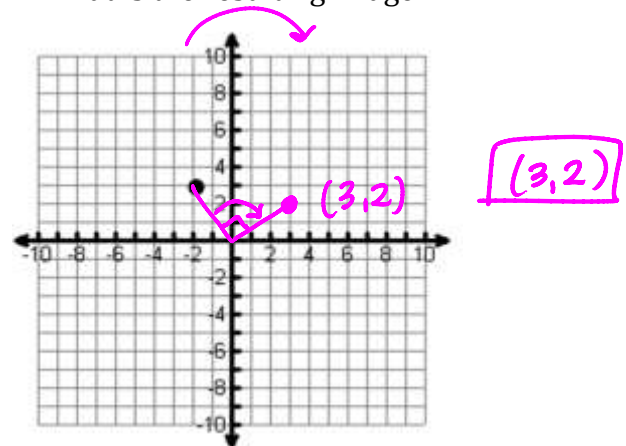
$$D(-20, 0)$$

## Chapter 9: Transformations

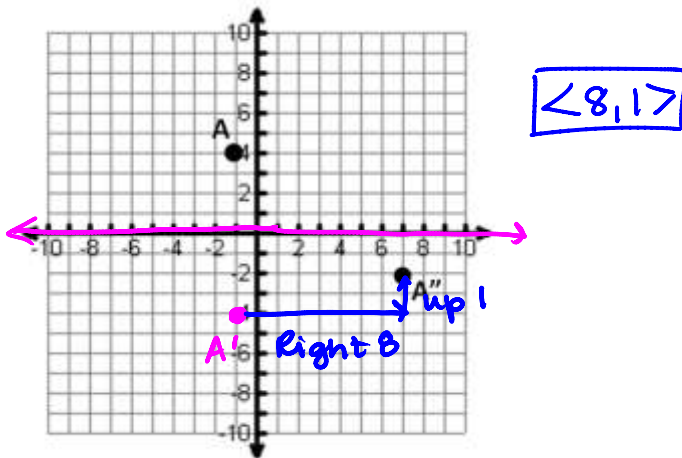
8. When the point  $(3, 7)$  is reflected over the y-axis, what is the resulting image?



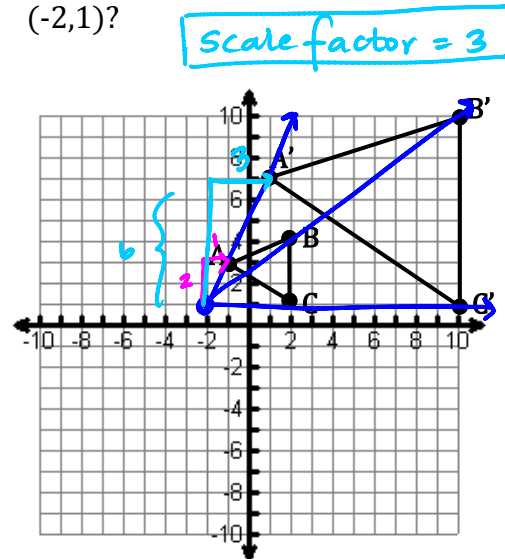
9. When the point  $(-2, 3)$  is rotated  $-90^\circ$ , what is the resulting image?



10. Point A  $(-1, 4)$  was mapped to Point A''  $(7, -2)$  first by a reflection over the x-axis and then by what translation vector.



11. What is the scale factor if the center is  $(-2, 1)$ ?



12. Identify the coordinates of Point E along  $\overline{GO}$  where  $G(-8, -7)$  and  $O(8, 5)$  such that the ratio of GE to EO is 3 to 1.

This means pt. E is  $\frac{3}{4}$  of the way from G to O

$E(4, 2)$

