Name: ______________________________ Date: ____________

Period: _____ Mr. Valentino

Aim: Let's Review Similarity!

Do Now: What does it mean to be similar?

- corresponding sides are in proportion
- corresponding angles are ≅
- ____

Let's talk scale factor...

match the scale factor to the corresponding images:

Scale Factor:

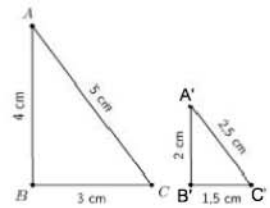
$\triangle ABC \sim \triangle A'B'C'$

K=2

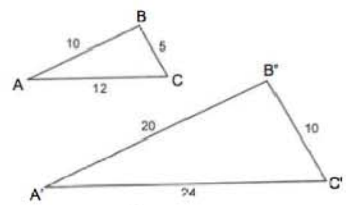
K=1/2

K=1.5

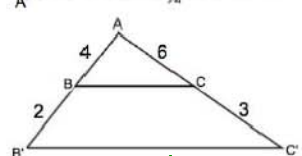
1



2



3

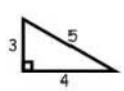


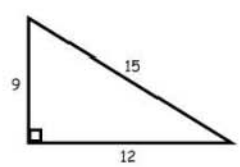
$\frac{4}{2} = \frac{6}{3}$

$2 = 2$

$\frac{6}{4} = \frac{9}{6}$

How does scale factor affect the size of the shape?





Perimeter = 12 Perimeter = 36 3x

Area = $A = \frac{1}{2}bh$

$= \frac{1}{2}(4)(3)$

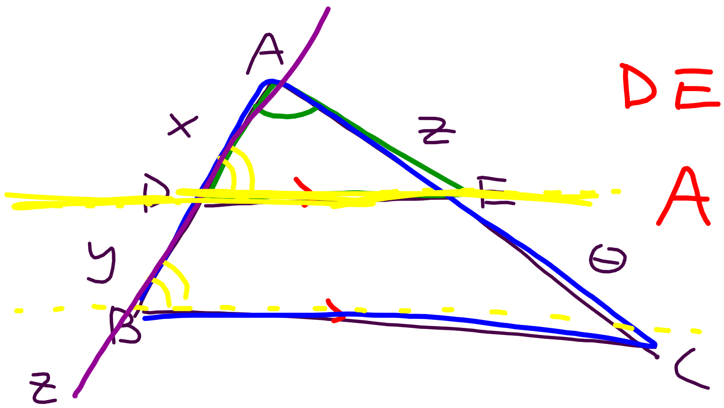
$= 6$

Area = $A = \frac{1}{2}(12)(9)$

$= (6)(9)$

$= 54$

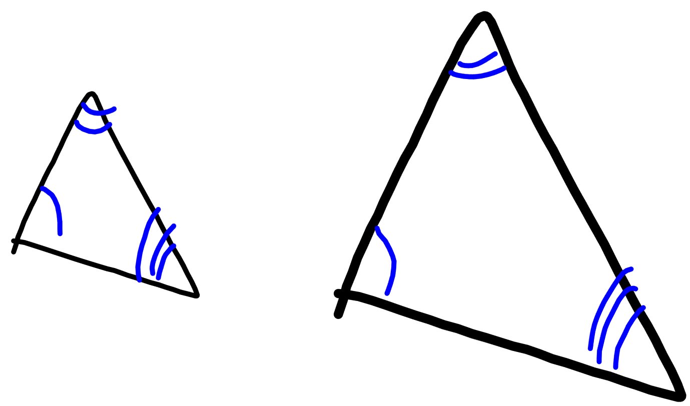
9x



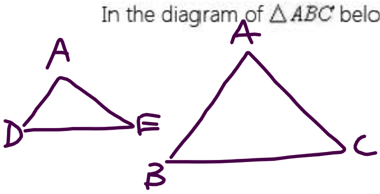
$DE \parallel BC$

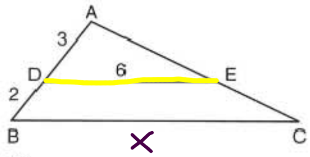
$AA \cong AA$

$$\frac{x}{y} = \frac{z}{\theta}$$



In the diagram of $\triangle ABC$ below, $\overline{DE} \parallel \overline{BC}$, $AD = 3$, $DB = 2$, and $DE = 6$.





$\triangle ADE \sim \triangle ABC$

$\frac{x}{6} = \frac{5}{3}$

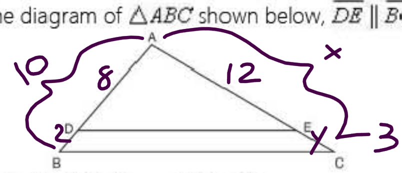
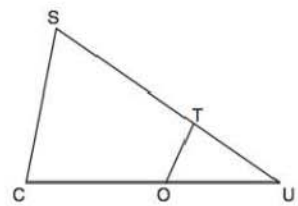
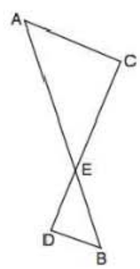
$3x = 30$

$x = 10$

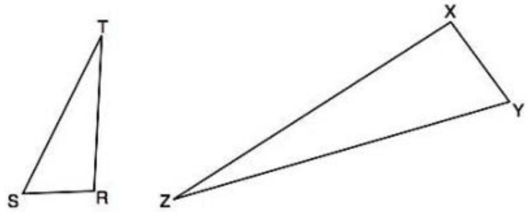
Is DE a midsegment? Why or why not?

No, because D is not the midpoint of AB.

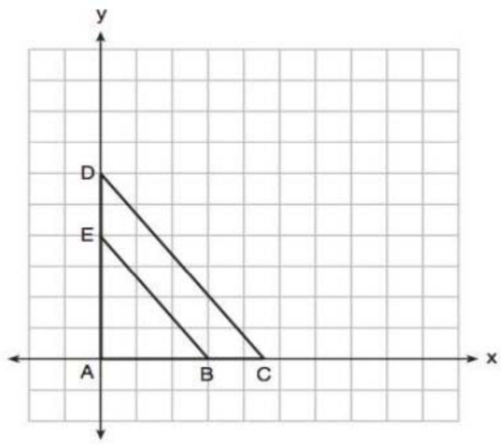
What is the length of $\overline{BC}$?

In the diagram of $\triangle ABC$ shown below, $\overline{DE} \parallel \overline{BC}$.  If $AB = 10$, $AD = 8$, and $AE = 12$. a) What is the length of $\overline{AC}$? b) What is the length of $\overline{EC}$?	In $\triangle SCU$ shown below, points T and O are on $\overline{SU}$ and $\overline{CU}$, respectively. Segment OT is drawn so that $\angle C \cong \angle OTU$.  If $TU = 4$, $OU = 5$, and $OC = 7$, what is the length of $\overline{ST}$? (1) 5.6 (2) 8.75 (3) 11 (4) 15
In $\triangle ABC$, point D is on $\overline{AB}$, and point E is on $\overline{BC}$ such that $\overline{DE} \parallel \overline{AC}$. If $DB = 2$, $DA = 7$, and $DE = 3$, what is the length of $\overline{AC}$? (Draw the diagram first!)	As shown in the diagram below, $\overline{AB}$ and $\overline{CD}$ intersect at E, and $\overline{AC} \parallel \overline{BD}$.  Given $\triangle AEC \sim \triangle BED$, which equation is true? (1) $\frac{CE}{DE} = \frac{EB}{EA}$ (2) $\frac{AE}{BE} = \frac{AC}{BD}$ (3) $\frac{EC}{AE} = \frac{BE}{ED}$ (4) $\frac{ED}{EC} = \frac{AC}{BD}$

Triangles RST and XYZ are drawn below. If $RS = 6$, $ST = 14$, $XY = 9$, $YZ = 21$, and $\angle S \cong \angle Y$, is $\triangle RST$ similar to $\triangle XYZ$? Justify your answer.



In the diagram below, $\triangle ABE$ is the image of $\triangle ACD$ after a dilation centered at the origin. The coordinates of the vertices are $A(0,0)$, $B(3,0)$, $C(4.5,0)$, $D(0,6)$, and $E(0,4)$.

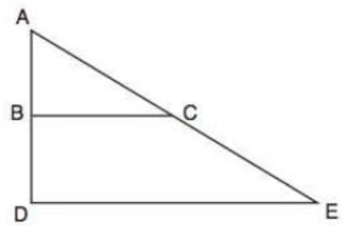


The ratio of the lengths of $\overline{BE}$ to $\overline{CD}$ is

(1) $\frac{2}{3}$ (3) $\frac{3}{4}$

(2) $\frac{3}{2}$ (4) $\frac{4}{3}$

The image of $\triangle ABC$ after a dilation of scale factor k centered at point A is $\triangle ADE$, as shown in the diagram below.



Which statement is always true?

(1) $2AB = AD$ (3) $AC = CE$

(2) $\overline{AD} \perp \overline{DE}$ (4) $\overline{BC} \parallel \overline{DE}$