

6 Week Review

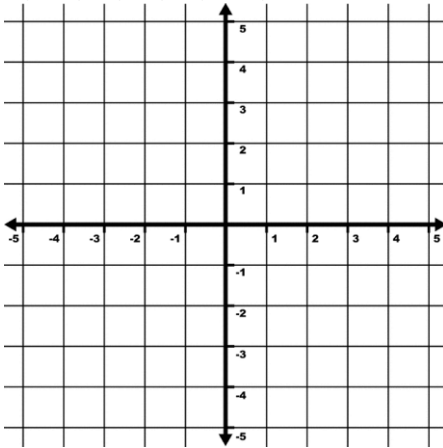
Name _____ Date _____ Block _____

What have we learned so far?

Transformations

1. Name the 4 types of transformations.
2. Which transformation only creates similar figures and why?
3. What transformation are rigid motions?
4. **Rotate** the figure with the given vertices **90° Counter Clockwise about the origin**, then **reflect it over the y-axis**.

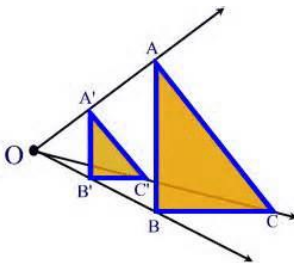
$X(-3,1)$, $Y(3,2)$, $Z(-1,-2)$



What is the coordinate notation for the transformations given?

Similarity

1. In terms of dilations, define the following terms in your own words.
 - a. preimage -
 - b. image -
 - c. scale factor -
2. Identify the preimage, image, and provide a possible scale factor for the following figures.



- a. preimage - _____
- b. image - _____
- c. Scale factor - _____

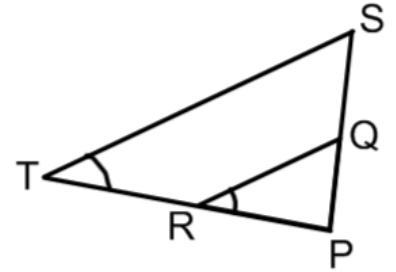
3. Given that figure $DEFG$ and figure $D'E'F'G'$ are similar and that \overline{FG} is 2, \overline{DE} is 5, and $\overline{F'G'}$ is 7 find the scale factor and the length of $\overline{D'E'}$.

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Triangle Similarity

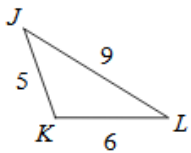
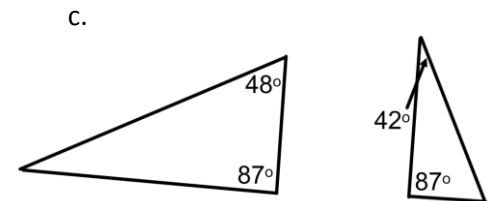
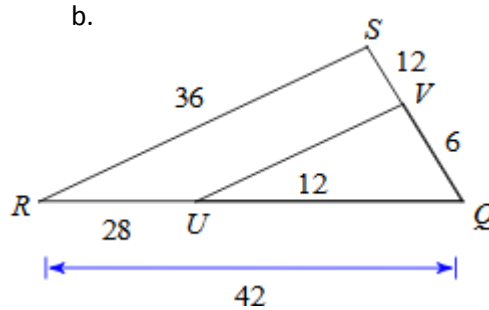
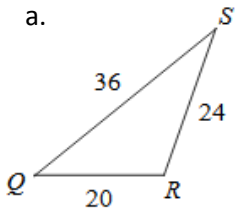
1. Decide if the following triangles are similar. State the postulate or theorem that you could use to show that.

2. If \overline{ST} is 24.75, \overline{SP} is 16.5, and \overline{SQ} is 9.9, what is the length of \overline{QR} ?



3. What is the length of \overline{RP} if \overline{TP} is 18?

4. Provide evidence to show that the following triangles are similar or not. Write a similarity statement if they are.



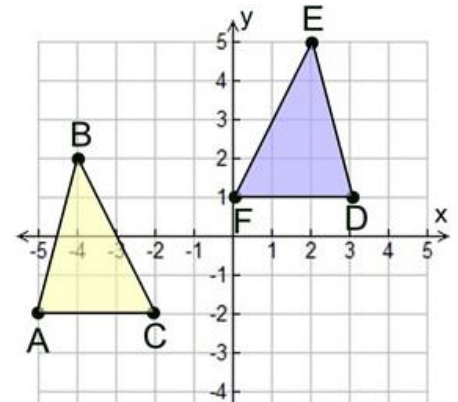
Congruence as a Rigid Motion

1. A figure has the coordinates $A(-1, 3)$, $B(2, -1)$, $C(2, -4)$. Apply the given transformation, identify the transformation(s), and explain if the image produced is congruent to the preimage.

a. $(x, y) \rightarrow (3x, 3y)$

b. $(x, y) \rightarrow (-y, -x)$

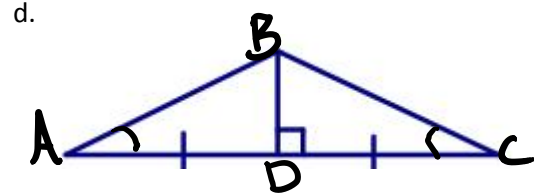
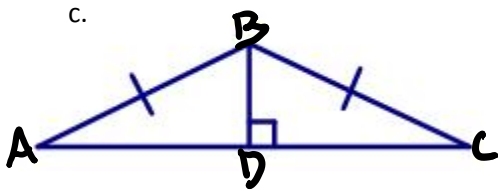
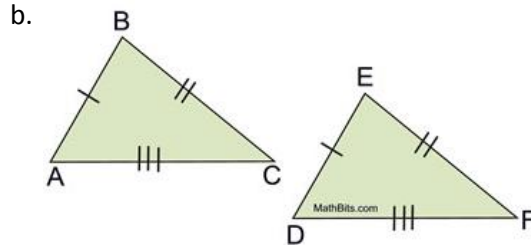
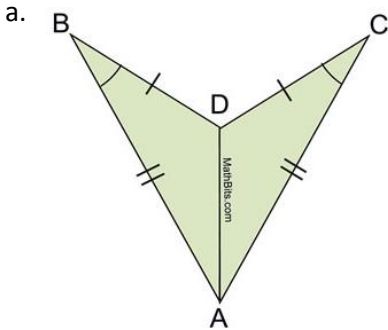
2. For the following figures state if they are congruent and how you know. Then give the coordinate notation for the transformations used to map one onto the other.



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Proving Triangles Congruent

1. For the following triangles decide which triangle postulate, if any, can prove the triangles congruent. Then prove them to be congruent or state no conclusion.



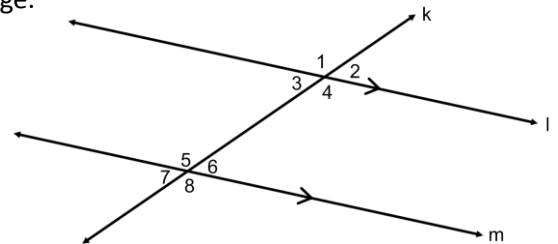
- e. In the above problem, problem letter a. has two possible ways to show congruence, what is the second way?

Proving Parallel Line Properties

1. Prove the following parallel line properties to be true using the given image.

- a. Given $\vec{l} \parallel \vec{m}$, prove that $\angle 3$ is supplementary to $\angle 5$.

Statement	Reason



- b. Given $\vec{l} \parallel \vec{m}$, prove that $\angle 1 \cong \angle 8$.

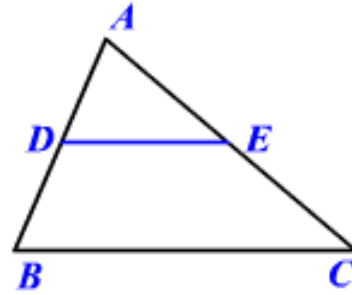
Statement	Reason

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Triangle Theorems

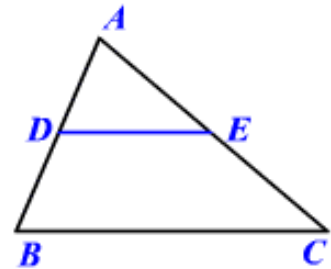
Use the Triangle Proportionality Theorem to solve the following problems.

- If \overline{AD} is 4.5, \overline{AE} is $3x$, \overline{DB} is 6, and \overline{EC} is $7x-9$,
 - What is the value of x ?
 - What is the length of \overline{BC} if \overline{DE} is 6?



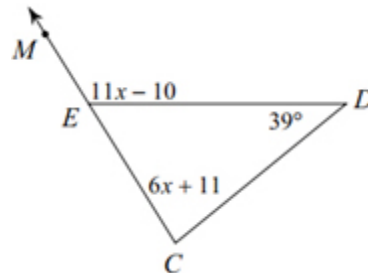
Use the Triangle Midsegment Theorem to solve the following problems.

- \overline{DE} is a midsegment of $\triangle ABC$.
 - If $\overline{DE} = 2x + 6$ and $\overline{BC} = 14x - 3$, what is the value of x ?
 - What is the length of \overline{DE} ?



Use the Exterior Angle Theorem to solve the following problems.

- What is the value of x in the figure on the right?
- What is the measure of $\angle CED$?



Use the Triangle Sum Theorem to solve the following problems.

- Find the value of each of the missing angles.

