

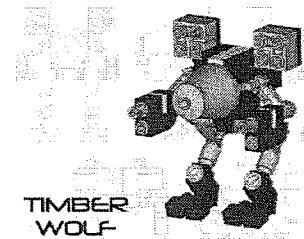
Congruence, Construction, and Proof 6.14

Ready, Set, Go!

Ready

Topic: Connecting tables with transformations.

For each function find the outputs that fill in the table. Then describe the relationship between the outputs in each table.



1. $f(x) = 3x$

x	$f(x)$
1	
2	
3	
4	

$g(x) = 3x - 5$

x	$g(x)$
1	
2	
3	
4	

Relationship between $f(x)$ and $g(x)$:

2. $t(x) = 2x$

x	$t(x)$
1	
2	
3	
4	

$h(x) = 2x - 5$

x	$h(x)$
1	
2	
3	
4	

Relationship between $t(x)$ and $h(x)$:

3. $f(x) = 2x$

x	$f(x)$
1	
2	
3	
4	

$g(x) = 2(x - 3)$

x	$g(x)$
1	
2	
3	
4	

Relationship between $f(x)$ and $g(x)$:

4. $t(x) = 4x$

x	$t(x)$
1	
2	
3	
4	

$h(x) = 4^{(x-3)}$

x	$h(x)$
1	
2	
3	
4	

Relationship between $t(x)$ and $h(x)$:

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Set

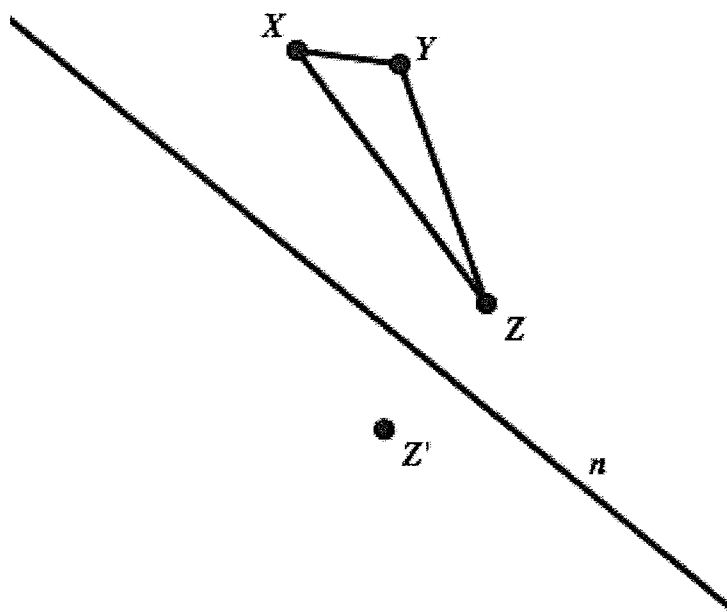
Topic: Constructing transformations

In each problem below use compass and straight edge to construct the transformation that is described.

5. Construct $\triangle A'B'C'$ so that it is a translation of $\triangle ABC$. (Hint: parallel lines may be useful.)



6. Construct $\triangle X'Y'Z'$ so that it is a reflection of $\triangle XYZ$ over line m . (Hint: perpendicular lines may be useful.)



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Go

Topic: Transformations and triangle congruence.

Determine whether or not the statement is true or false. If true, explain why. If false, explain why not or provide a counterexample.

7. If one triangle can be transformed so that one of its angles and one of its sides coincide with another triangles angle and side then the two triangles are congruent.

8. If one triangle can be transformed so that two of its sides and any one of its angles will coincide with two sides and an angle from another triangle then the two triangles will be congruent.

9. If all three angles of a triangle are congruent then there is a sequence of transformations that will transform one triangle onto the other.

10. If all three sides of a triangle are congruent then there is a sequence of transformations that will transform one triangle onto the other.

11. For any two congruent polygons there is a sequence of transformations that will transform one of the polygons onto the other.

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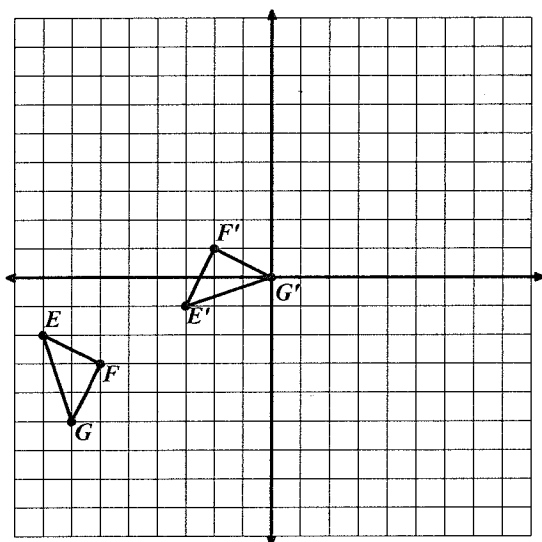
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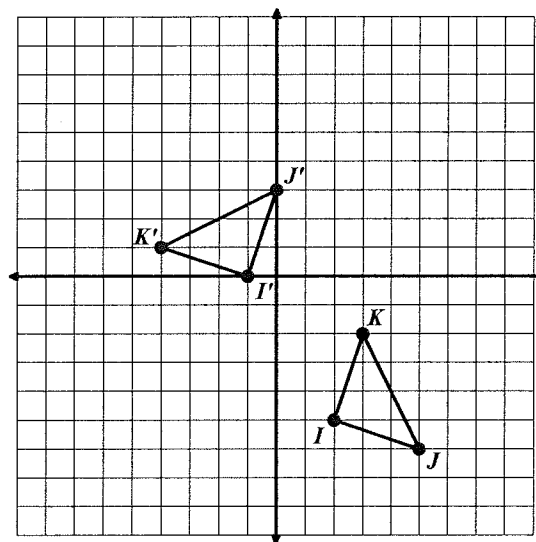
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Find the point of rotation for each of the figures below.

12.

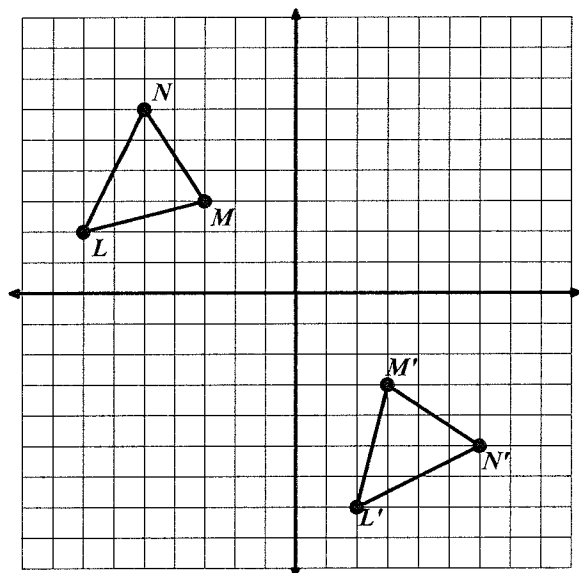


13.

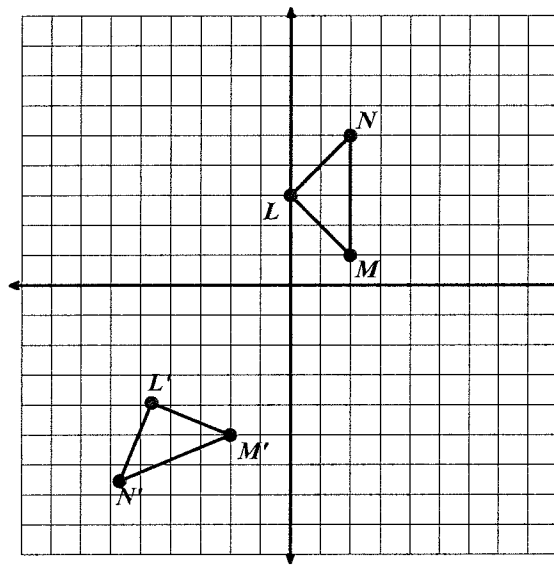


Find the line of reflection for each of the figures drawn below.

14.



15.



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