

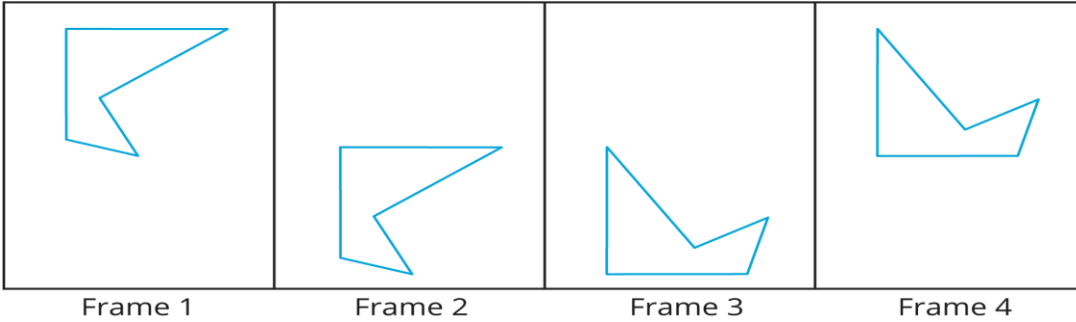
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Unit 1, Lesson 1: Moving in the Plane – Cool Down

Here are successive positions of a shape:



Describe how the shape moves from:

1. Frame 1 to Frame 2.

2. Frame 2 to Frame 3.

3. Frame 3 to Frame 4.

Solve each equation. Show work.

4. $x - 12 = -9$

5. $6 = x + 15$

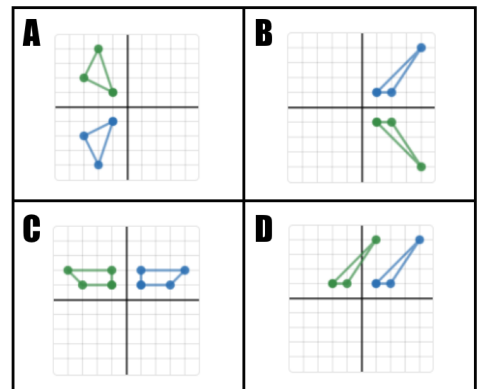
6. $\frac{x}{5} = 15$

7. $-8y = 32$

8. $\frac{1}{4}x = 7$

9. $18 + y = -5$

10. Name the type of move for each



A. _____

B. _____

C. _____

D. _____

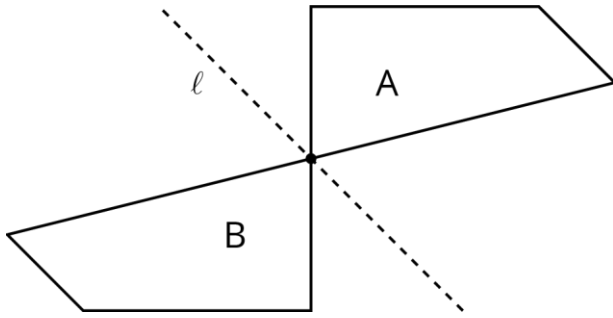
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Unit 1, Lesson 2: Naming the Moves – Cool Down

1. What type of move takes Figure A to Figure B?



Explain your reasoning.

2. Draw a line to match the type of move with the mathematical term that describes it.

<u>Move</u>	<u>Math Term</u>
Turn	Reflection
Flip	Translation
Slide	Rotation

3. Which type of move could be described using the given term?
(Use the **math term** for each move)

Clockwise _____

Up _____

Simplify the following:

4. $3(x - 7)$

5. $-4(2x + 5)$

6. $-6(8x - 3)$

7. $\frac{1}{3}(6x + 24)$

8. $\frac{1}{2}(-4x + 18)$

9. $\frac{2}{3}(9x - 12)$

Solve each equation. Show work.

10. $-5y = -35$

11. $\frac{1}{3}x = 10$

12. $-12 + y = -4$

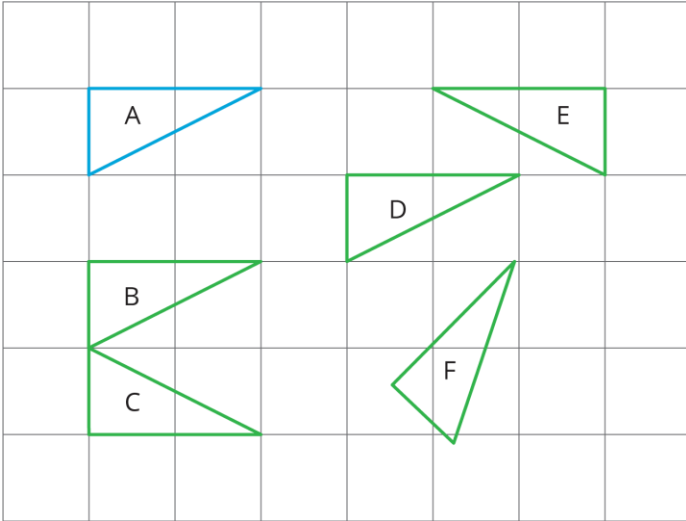
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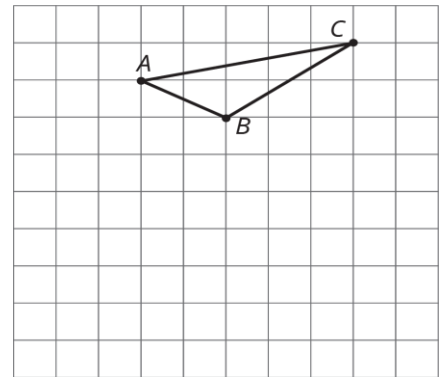
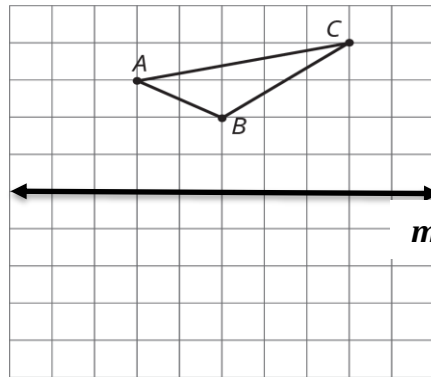
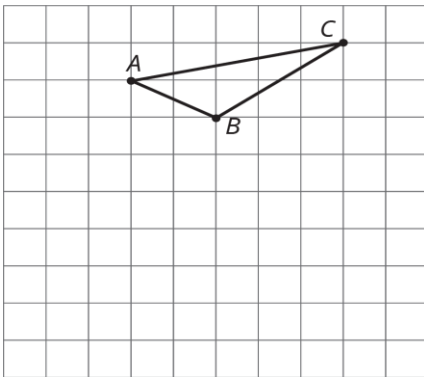
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Unit 1, Lesson 3: Grid Moves – Cool Down

1. Which of these triangles are translations of Triangle A? Select **all** that apply.



Here is triangle ABC drawn on a grid.



- Translate ABC 2 units left, 4 units down. Label the image $A'B'C'$.
- Reflect ABC over line m . Label the image $A'B'C'$.
- Rotate triangle ABC 90° CCW around point B . Label the image $A'B'C'$.

Solve the equations. Show work

5. $-2x = 7$

6. $-\frac{2}{3}x = 20$

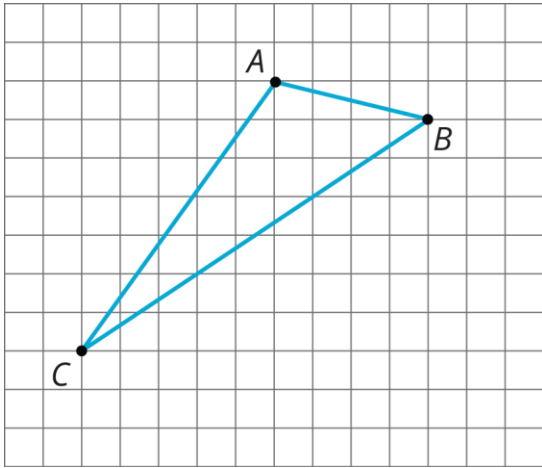
7. $x - 8 = -23$

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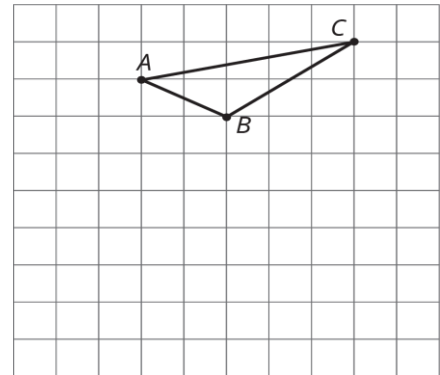
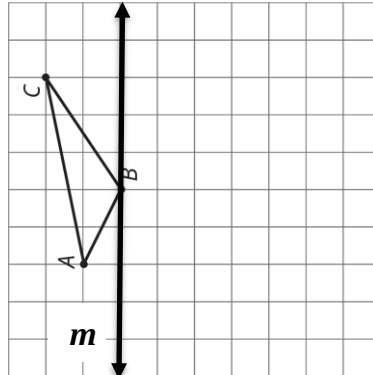
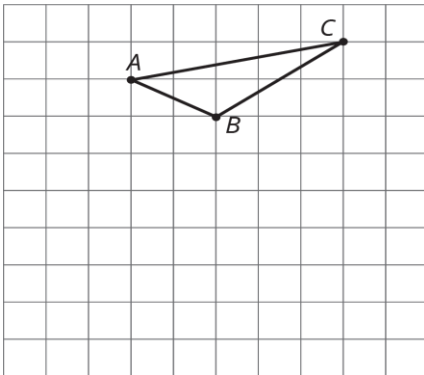
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Unit 1, Lesson 4: Making the Moves – Cool Down



1. If you were to describe a translation of triangle ABC , what information would you need to include in your description?
2. If you were to describe a rotation of triangle ABC , what information would you need to include in your description?
3. If you were to describe a reflection of triangle ABC , what information would you need to include in your description?

Here is triangle ABC drawn on a grid.



4. Translate ABC 6 units down, 2 units right. Label the image $A'B'C'$.
5. Reflect ABC over line m . Label the image $A'B'C'$.
6. Rotate ABC 90° clockwise around point A . Label the image $A'B'C'$.

Solve the equations. Show work.

7. $\frac{4}{3}x = -28$

8. $-1.2x = 7.2$

9. $14.3 = x + 6.5$

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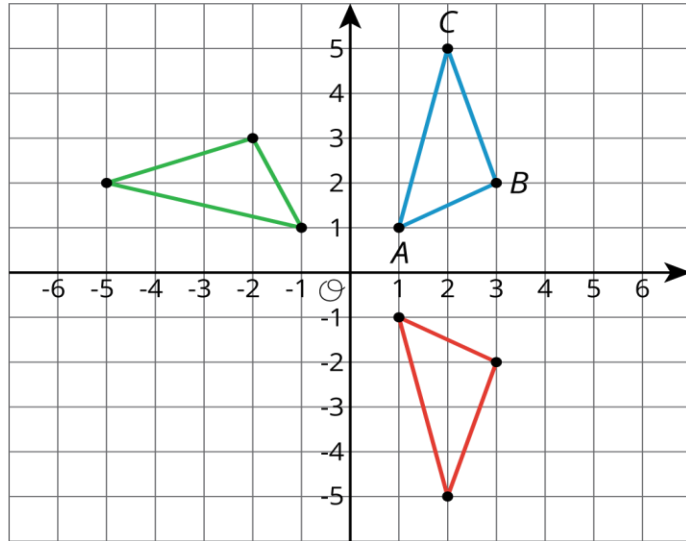
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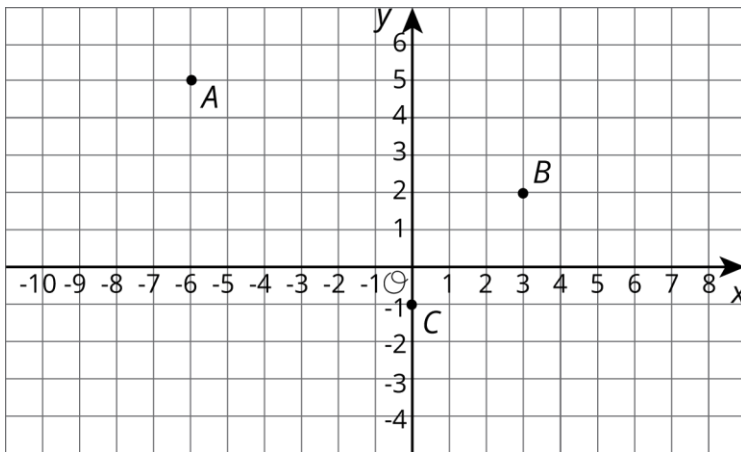
Unit 1, Lesson 5: Coordinate Moves- Cool Down

One of the triangles pictured is a rotation of triangle ABC and one of them is a reflection.

1. Identify the center of rotation, and label the rotated image PQR .
2. Identify the line of reflection, and label the reflected image XYZ .



Here are points A and B .



3. What are the coordinates of A and B after a translation to the left by 5 units and down 3 units? **Plot** these points on the grid, and label them A' and B' .

A' (,) B' (,)

4. What are the coordinates of A and B after a 90 rotation Clockwise about the origin? **Plot** these points on the grid, and label them A'' and B'' .

A'' (,) B'' (,)

5. What are the coordinates of A and B after a reflection over the y -axis. **Plot** these points on the grid and label them A''' and B''' .

A''' (,) B''' (,)

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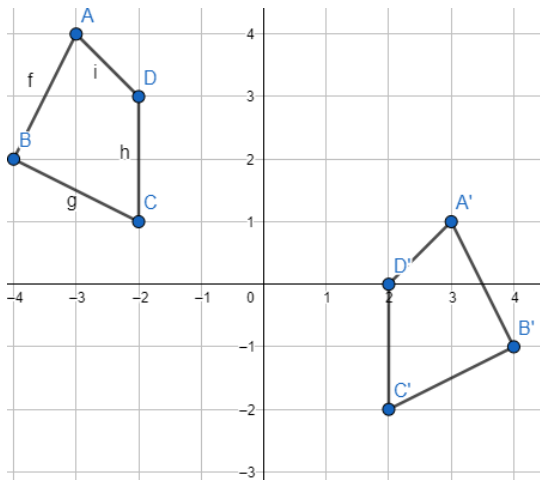
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Unit 1, Lesson 6: Describing Transformations – Cool Down

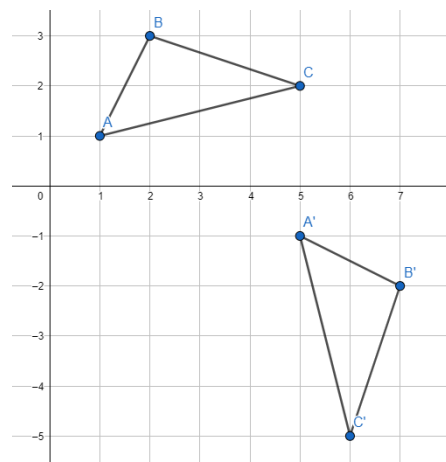
1. Jada applies two transformations to a polygon in the coordinate plane. One of the transformations is a translation and the other is a reflection. What information does Jada need to provide to communicate the transformations she has used?

Describe a sequence of transformations that takes the original shape to its image.

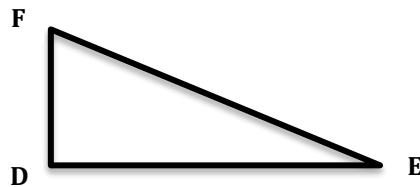
2.



3.



4) Here is triangle DEF .



Draw the image of DEF after each transformation.

- The translation that takes F to E .
- The reflection over segment FE .
- The rotation about point D by angle FDE counterclockwise.

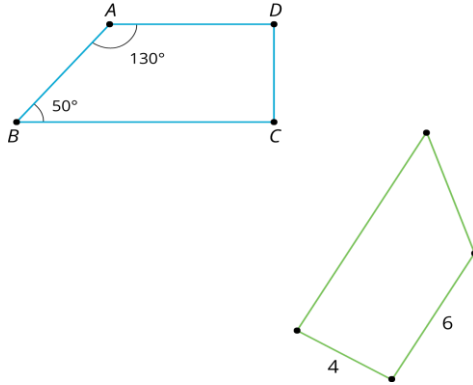
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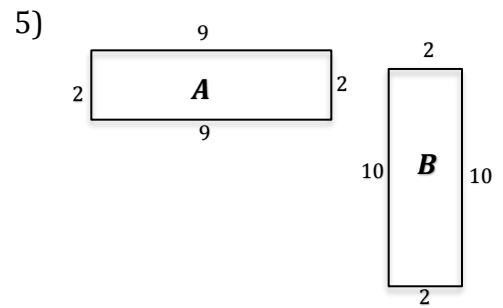
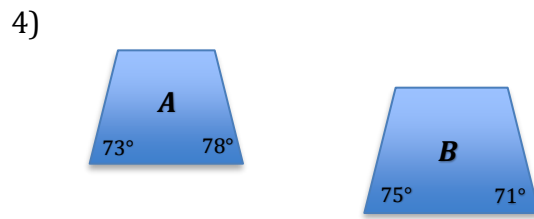
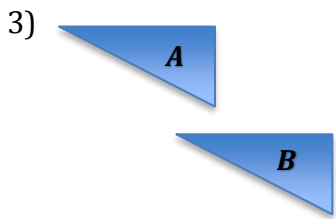
Unit 1, Lesson 7: No Bending or Stretching – Cool Down

Trapezoid $A'B'C'D'$ is the image of trapezoid $ABCD$ under a rigid transformation.



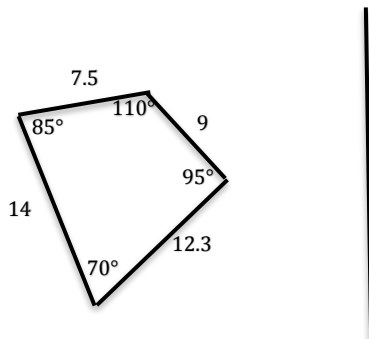
1. Label all vertices on trapezoid $A'B'C'D'$.
2. On both figures, label all known side lengths and angle measures.

Is there a rigid transformation that takes figure A to figure B? **Explain how you know.**



6) Use the diagram below.

- a. Reflect the polygon below over the line.
- b. In the image, write the length of each side next to the side.
- c. In the image, write the measure of each angle in the interior.



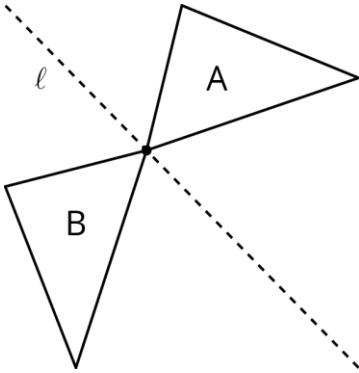
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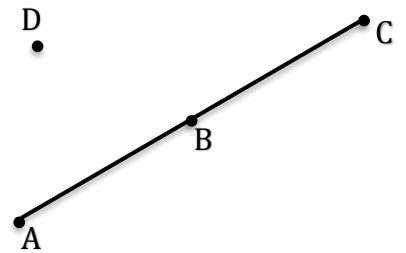
Unit 1, Lesson 8: Rotation Patterns – Cool Down

1) Here are two triangles. Is triangle B a rotation of triangle A? Explain your reasoning.

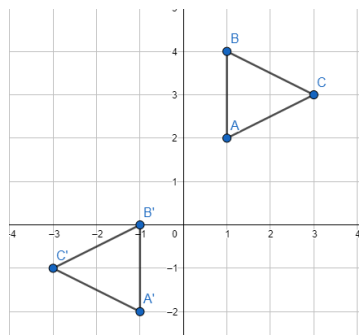


For #2-4, use the figure shown to the right.

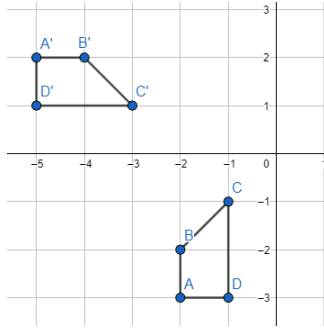
- 2) Rotate segment AC 180° around point A.
- 3) Rotate segment AC 180° around point D.
- 4) Rotate segment AC 180° around point B.



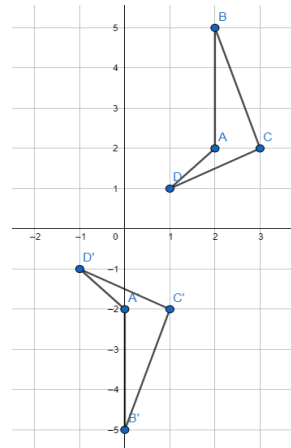
For each graph below, describe a sequence of transformations that takes each polygon to its image.



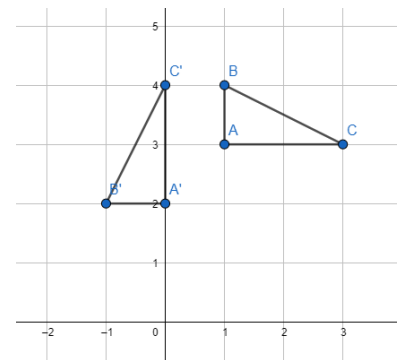
5. _____



6. _____



7. _____



8. _____

Solve the equations. Show work

9. $-3x = 16$

10. $-\frac{3}{5}x = 12$

11. $x - 14 = -26$

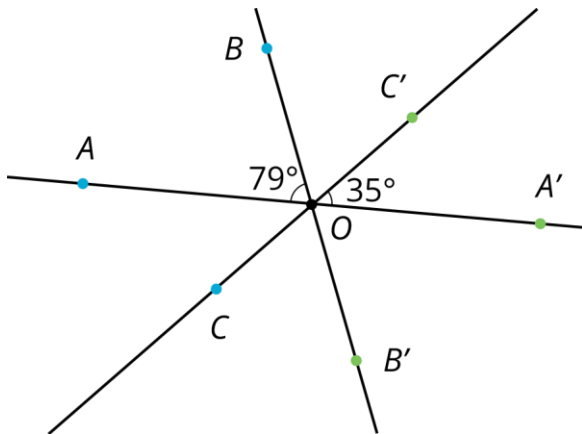
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Unit 1, Lesson 9: Moves in Parallel – Cool Down

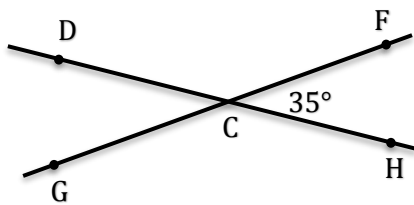
Points A' , B' , and C' are the images of 180-degree rotations of A , B , and C , respectively, around point O .



Answer questions 1 & 2 and explain your reasoning *without* measuring segments or angles.

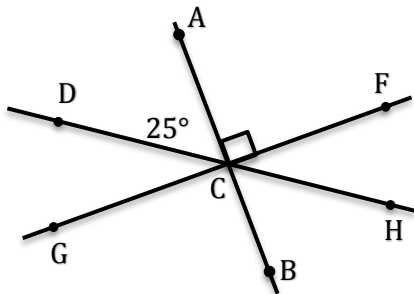
1. Name a segment whose length is the same as segment AO .
2. What is the measure of angle $A'OB'$?

Use the figure to answer questions 3-5; find the measurement of each angle.



3. $m\angle GCD =$ _____
4. $m\angle DCF =$ _____
5. $m\angle HCG =$ _____

Use the figure to answer questions 6-8; find the measurement of each angle.



6. $m\angle HCB =$ _____
7. $m\angle GCD =$ _____
8. $m\angle FCH =$ _____

Solve the equations. Show your work.

9) $-3x = 4.2$

10) $-18 = -7x + 19x$

11) $-37 + 16 = \frac{3}{4}x$

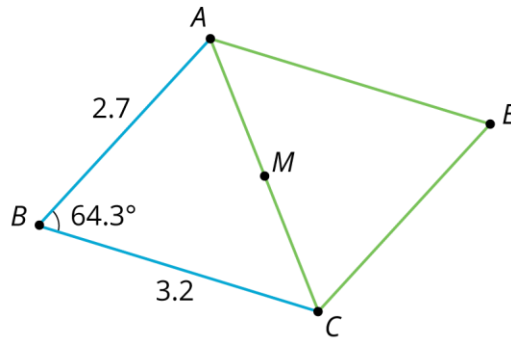
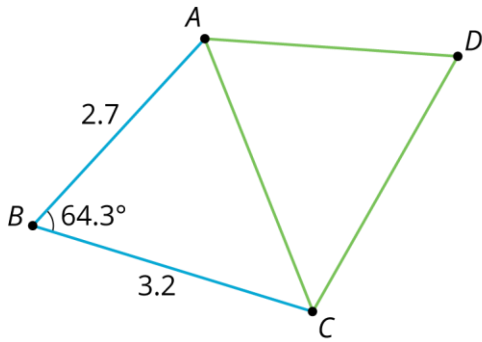
12) $-\frac{1}{5}x = \frac{7}{15}$

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Unit 1, Lesson 10: Composing Figures – Cool Down

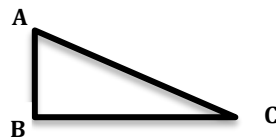


Here is a diagram showing triangle ABC and some transformations of triangle ABC .

On the left side of the diagram, triangle ABC has been *reflected* across line AC to form quadrilateral $ABCD$. On the right side of the diagram, triangle ABC has been *rotated* 180 degrees using midpoint M as a center to form quadrilateral $ABCE$.

1) Using what you know about rigid transformations, side lengths and angle measures, label as many side lengths and angle measures as you can in quadrilaterals $ABCD$ and $ABCE$.

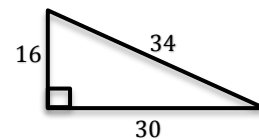
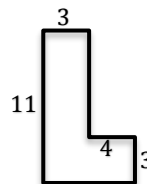
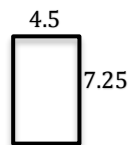
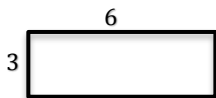
Here is triangle ABC .



2) Draw these rotations of triangle ABC together.

- a. Rotate triangle ABC 90° CCW around point B .
- b. Rotate triangle ABC 180° around point A .
- c. Rotate triangle ABC 270° CCW around point A .

Find the Area and Perimeter of each shape.



3) Area = _____

Perim = _____

4) Area = _____

Perim = _____

5) Area = _____

Perim = _____

6) Area = _____

Perim = _____