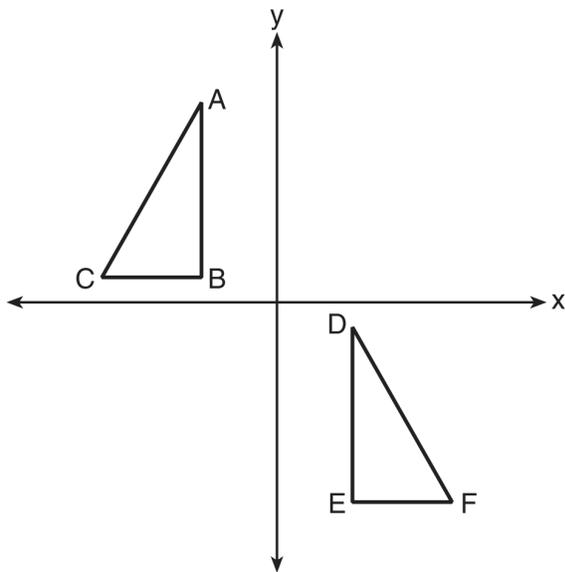


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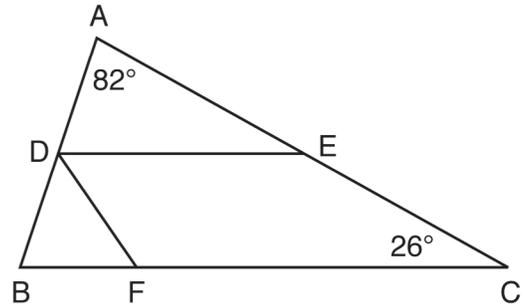
1. In the diagram below,  $\triangle ABC \cong \triangle DEF$ .



Which sequence of transformations maps  $\triangle ABC$  onto  $\triangle DEF$ ?

- A. a reflection over the  $x$ -axis followed by a translation
- B. a reflection over the  $y$ -axis followed by a translation
- C. a rotation of  $180^\circ$  about the origin followed by a translation
- D. a counterclockwise rotation of  $90^\circ$  about the origin followed by a translation

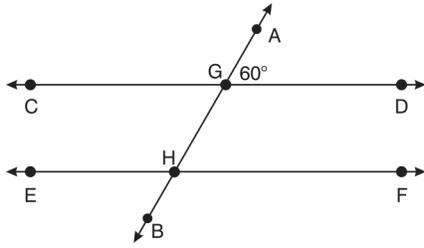
2. In the diagram below,  $\overline{DE}$  divides  $\overline{AB}$  and  $\overline{AC}$  proportionally,  $m\angle C = 26^\circ$ ,  $m\angle A = 82^\circ$ , and  $\overline{DF}$  bisects  $\angle BDE$ .



The measure of angle  $DFB$  is

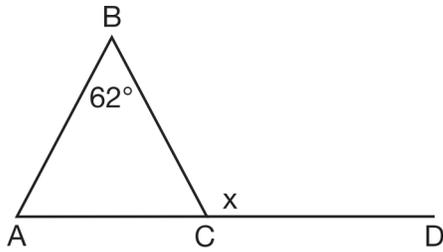
- A.  $36^\circ$
  - B.  $54^\circ$
  - C.  $72^\circ$
  - D.  $82^\circ$
3. The image of  $\triangle DEF$  is  $\triangle D'E'F'$ . Under which transformation will the triangles *not* be congruent?
- A. a reflection through the origin
  - B. a reflection over the line  $y = x$
  - C. a dilation with a scale factor of 1 centered at  $(2, 3)$
  - D. dilation with a scale factor of  $\frac{3}{2}$  centered at the origin

4.



In the figure above, lines  $CD$  and  $EF$  are parallel. What is the measure, in degrees, of  $\angle BHF$ ?

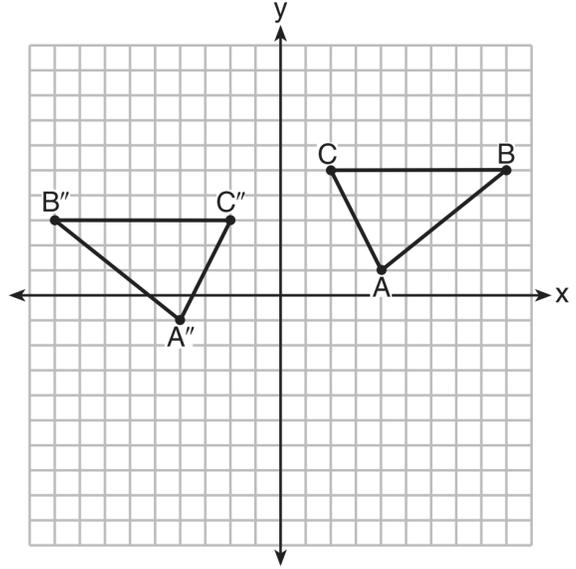
5. Given  $\triangle ABC$  with  $m\angle B = 62^\circ$  and side  $\overline{AC}$  extended to  $D$ , as shown below.



Which value of  $x$  makes  $\overline{AB} \cong \overline{CB}$ ?

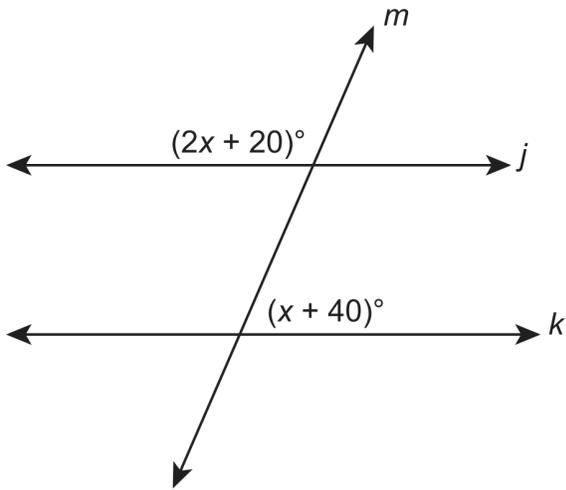
- A.  $59^\circ$     B.  $62^\circ$     C.  $118^\circ$     D.  $121^\circ$

6. The graph below shows  $\triangle ABC$  and its image,  $\triangle A''B''C''$ .



Describe a sequence of rigid motions which would map  $\triangle ABC$  onto  $\triangle A''B''C''$ .

7. In the figure shown below, lines  $j$  and  $k$  are parallel.



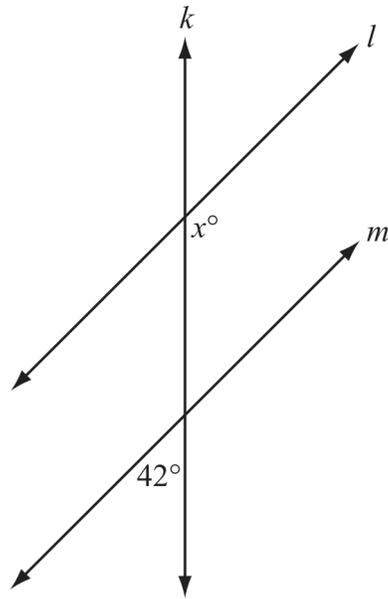
Which equation can be used to find the value of  $x$  in the figure?

- A.  $(x + 40) = (2x + 20)$
- B.  $2(x + 40) = 2x + 20$
- C.  $(x + 40) + (2x + 20) = 90$
- D.  $(x + 40) + (2x + 20) = 180$

Find the value of  $x$ .

.  
.
   
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.
   
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8. In the diagram below, line  $l$  is parallel to line  $m$ , and both lines are intersected by line  $k$ .



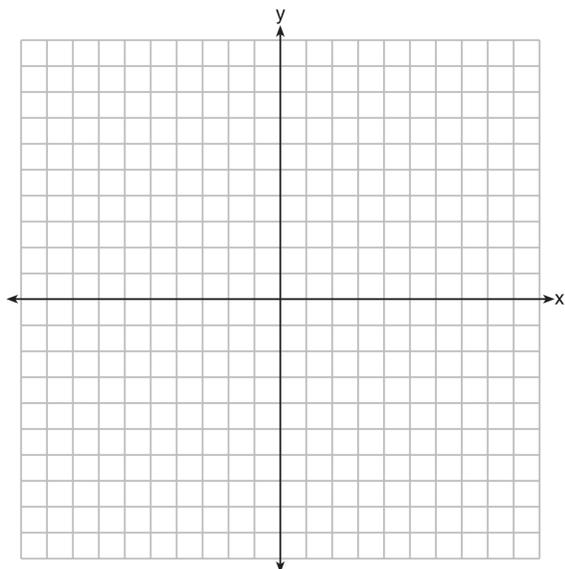
Based on the angle measure in the diagram, what is the value of  $x$ ?

- A. 42
- B. 48
- C. 132
- D. 138

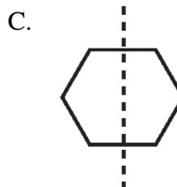
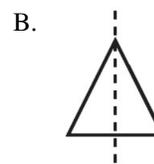
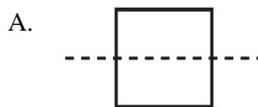
9. Triangle  $ABC$  has vertices at  $A(-5, 2)$ ,  $B(-4, 7)$ , and  $C(-2, 7)$ , and triangle  $DEF$  has vertices at  $D(3, 2)$ ,  $E(2, 7)$ , and  $F(0, 7)$ . Graph and label  $\triangle ABC$  and  $\triangle DEF$  on the set of axes below.

Determine and state the single transformation where  $\triangle DEF$  is the image of  $\triangle ABC$ .

Use your transformation to explain why  $\triangle ABC \cong \triangle DEF$ .



10. Which figure does *not* show a line of symmetry?



HW #2 10/15/2017

1.  
Answer: B
2.  
Answer: B
3.  
Answer: D
4.  
Answer:  $120^\circ$
5.  
Answer: D
6.  
Answer: [answer varies]  
Objective: G-CO.A
7.  
Answer: D
8.  
Answer: D
9.  
Answer: [construction], [task], [explanation]
10.  
Answer: