Unit 9: Congruence transformations Name:
26 February 2020

9.3 Homework: Transformation practice

1. Given $\triangle ABC$ and $\triangle DEF$ with $\angle A \cong \angle D$ and $\angle C \cong \angle F$. What congruence is required to prove the triangles congruent using ASA?

2. Given $\triangle ABC$ and $\triangle DEF$ with $\overline{AB} \cong \overline{DE}$ and $\angle B \cong \angle E$. What congruence is required to prove the triangles congruent using SAS?

3. Given $\triangle ABC$ and $\triangle DEF$ with $\overline{AB} \cong \overline{DE}$ and $\angle A \cong \angle D$. What congruence is required to prove the triangles congruent using ASA?

4. Apply the translation $(x, y) \to (x - 2, y + 4)$ to the point $A(2, -1)$.

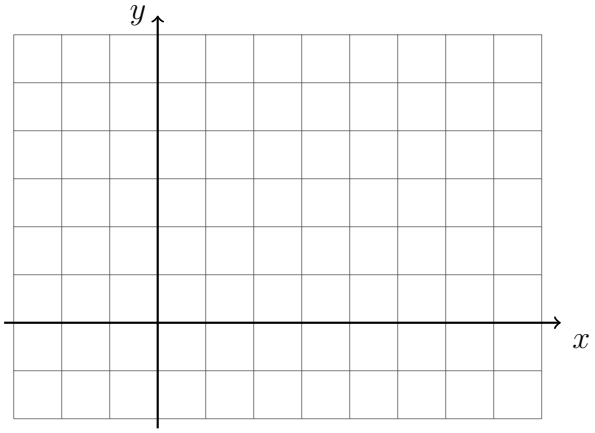
5. What is the image of $B(2, 7)$ under a reflection across the x-axis?

6. State the translation that would map $C(-3, 1)$ onto $C'(4, 0)$.

7. A translation maps $D(1, 9) \rightarrow D'(4, 3)$. What is the image of $E(6, -2)$ under the same translation?

8. The image of triangle ABC after a translation is $\triangle A'B'C'$. Is the area of the triangle greater, smaller, or the same after the translation? Justify your answer.

9. On the graph below, draw $\overline{AB}$, with $A(-2, 1)$ and $B(6, 3)$, labeling the end points. Determine and state the coordinates of the midpoint M of $\overline{AB}$ and mark and label it on the graph.



10. $A(3, 1)$ is one endpoint of $\overline{AB}$. The segment's midpoint is $M(7, 6)$. Find the other endpoint, B.