1. Which of the following sets of transformations would create an image that is not congruent to its original image?
A. A rotation of $90^{\circ}$ followed by a translation of 2 units to the right
B. A reflection across the $y$-axis followed by a rotation of $180^{\circ}$
C. A translation 4 units to the left followed by a dilation by 2
D. A rotation of $27^{\circ}$ followed by a reflection across the $x$-axis
2. A ladder leans against a wall, forming a right triangle. If the top of the ladder slides down a little from its original resting place, is the new triangle congruent to the one before?
A. Yes, because the ladder was translated
B. Yes, because the ladder was rotated
C. No, because the angle formed by the ladder changed
D. No, because the length of the ladder changed
3. Two ladders stand the same distance away and lean up against a wall. One ladder is 3 feet longer than the other. If this ladder is reduced to the same length as the second ladder, which of the following is true?
A. The two triangles are congruent and a rigid motion was performed.
B. The two triangles are not congruent and a rigid motion was performed.
C. The two triangles are congruent and a non-rigid motion was performed.
D. The two triangles are not congruent and a non-rigid motion was performed.
4. Which of the following is true for two congruent triangles $\triangle A B C$ and $\triangle D E F$ ?
A. Any transformation will map one onto the other
B. $A B$ is congruent to $E F$
C. $\angle B$ is congruent to $\angle E$
D. Only a reflection will map one onto the other
5. Which of the following is true for two non-congruent triangles $\triangle A B C$ and $\triangle D E F$ ?
A. A reflection can map one onto the other
B. A transformation can map one onto the other
C. A translation can map one onto the other
D. A rotation can map one onto the other
6. Two triangles have three pairs of corresponding angles. Which of the following is true?
A. We can prove they are congruent because the triangles are equiangular
B. We can prove they are congruent using the ASA postulate
C. We cannot prove they are congruent because, even though we know the triangles are equiangular, we do not have the angle measurements
D. We cannot prove they are congruent because we do not know the lengths of the sides

Tell which congruence postulate you could use (if any) to show the triangles are congruent.
7.

8.

9.


State what additional information is required to prove the triangles are congruent using the postulate shown.
10. AAS

11. SAS


For 12 and 13, complete parts a through c.
a. Write a congruence statement
b. Prove the triangles are congruent
c. Determine what transformation will map one triangle onto the other. For a reflection, draw or name the line of reflection. For a rotation, identify the point of rotation and the angle. For a translation, identify the vectors.
12.

a.
b.

| Statement | Reason |
| :--- | :--- |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |
| 4. | 4. |

c.
a.
b.

| Statement | Reason |
| :--- | :--- |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |
| 4. | 4. |

c.

