

Grade 8 - Translations, Reflections and Rotations - Quiz

Common Core 8.G.A.1, 8.G.A.2, 8.G.A.3 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

Pick the best answer for each of the 10 questions about translations, reflections, rotations and congruence on the coordinate plane (Common Core 8.G.A.1, 8.G.A.2 and 8.G.A.3).
Read each question carefully, then read the explanation to learn from any mistake.

Grade 8 · Common Core State Standards: **8.G.A.1, 8.G.A.2, 8.G.A.3**

Questions

Question 1

What is the image of $(3,4)$ after a translation 2 left and 5 up?

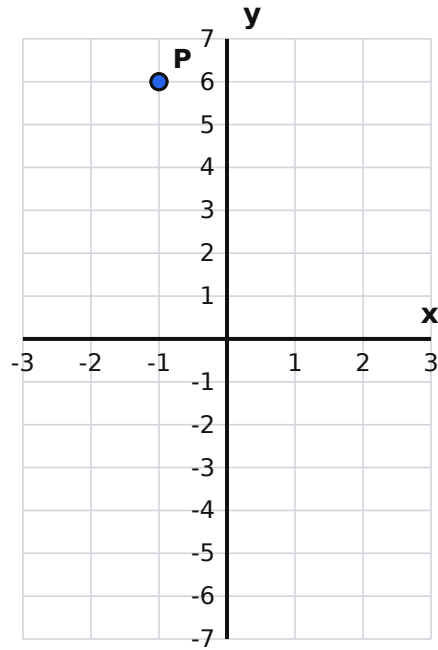
- A. $(5,-1)$
- B. $(1,9)$
- C. $(1,-1)$
- D. $(5,9)$

Question 2

What is the reflection of $(7,-2)$ across the x-axis?

- A. $(-7,-2)$
- B. $(-7,2)$
- C. $(2,7)$
- D. $(7,2)$

Question 3

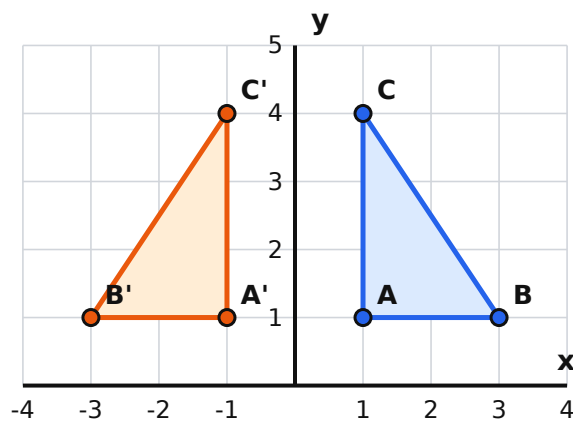


Point P(-1, 6) on the grid.

What is the image of $(-1, 6)$ after a 180° rotation about the origin?

- A. $(1, -6)$
- B. $(-1, -6)$
- C. $(1, 6)$
- D. $(6, -1)$

Question 4



Two triangles.

Which transformation maps ABC onto $A'B'C'$?

- A. Reflection across the y-axis

- B. Translation 2 left
- C. Rotation of 180° about the origin
- D. Reflection across the x-axis

Question 5

Which is NOT preserved by a rotation?

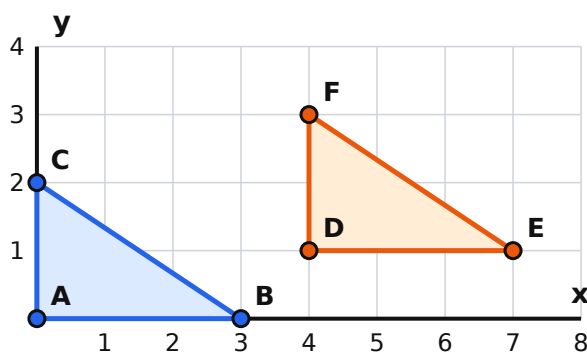
- A. Side lengths
- B. The position of the figure
- C. Angle measures
- D. Parallel sides

Question 6

What is the image of $(2,7)$ after a 90° clockwise rotation about the origin?

- A. $(-7,2)$
- B. $(7,-2)$
- C. $(-2,-7)$
- D. $(-7,-2)$

Question 7



Two triangles.

Which transformation maps ABC onto DEF ?

- A. Translation 1 right, 4 up
- B. Reflection across the y-axis
- C. Translation 4 right, 1 up
- D. Rotation of 90°

Question 8

Two figures are congruent when

- A. a sequence of rigid motions maps one to the other
- B. they have the same color

- C. one is larger than the other
- D. they have the same number of sides

Question 9

A triangle is reflected across a line. Which statement about the image is true?

- A. Its angles are doubled
- B. Its sides are shorter
- C. Its side lengths are unchanged
- D. Its area is smaller

Question 10

Reflect (a,b) across the y-axis. What is the image?

- A. $(a,-b)$
- B. $(-a,-b)$
- C. (b,a)
- D. $(-a,b)$

Answers

1. **B** – Subtract 2 from x and add 5 to y .
2. **D** – Reflecting across the x -axis changes only the sign of y .
3. **A** – A 180 degree rotation changes both signs.
4. **A** – x changes sign and y stays the same.
5. **B** – Rigid motions keep size and shape, but the figure moves.
6. **B** – Clockwise: (x, y) becomes $(y, -x)$.
7. **C** – A moves from $(0, 0)$ to $(4, 1)$: 4 right and 1 up.
8. **A** – Congruent figures have the same size and shape.
9. **C** – Reflections preserve lengths and angles.
10. **D** – The y -axis reflection changes the sign of x .

Remember

- Translation by (a, b) : $(x, y) \rightarrow (x+a, y+b)$.
- Reflection across the x -axis: $(x, -y)$; across the y -axis: $(-x, y)$.
- Rotation about the origin: 90° counterclockwise $(-y, x)$; 180° $(-x, -y)$; 90° clockwise $(y, -x)$.
- Rigid motions preserve lengths, angles and parallel lines.
- Two figures are congruent if a sequence of rigid motions maps one to the other.