

1. Given points $P(7, 5)$, $Q(8, 3)$, $R(0, -1)$, and $S(-1, 1)$, which of the following is true?
- A \overline{PQ} is parallel to \overline{RS} .
- B \overline{PQ} is perpendicular to \overline{RS} .
- C \overline{PR} is perpendicular to \overline{QS} .
- D \overline{PR} is parallel to \overline{QS} .
2. Which is an equation of a line parallel to $-\frac{2}{3}x + \frac{1}{5}y = 4$?
- A $-10x + 3y = 6$
- B $-3x + 10y = 6$
- C $3x - 10y = -6$
- D $10x + 3y = -6$
3. What is the slope of the line that is perpendicular to the line whose equation is $3x - 2y = -8$?
- A $\frac{3}{2}$
- B $\frac{2}{3}$
- C $-\frac{2}{3}$
- D $-\frac{3}{2}$
4. $ABCD$ is a rhombus. The slope of segment AB is $\frac{3}{8}$. What is the slope of segment DC ?
- A $\frac{8}{3}$
- B $\frac{3}{8}$
- C $-\frac{3}{8}$
- D $-\frac{8}{3}$

5. Which of the following is an equation of the line perpendicular to $3x + 6y = 12$ at $(4, 0)$?

A $y = -\frac{1}{2}x + 2$

B $y = \frac{1}{2}x - 2$

C $y = -2x + 8$

D $y = 2x - 8$

6. Isosceles triangle ABC has vertices $A(2, 5)$, $B(10, 3)$, and $C(2, 1)$. What is the equation of the perpendicular bisector of \overline{AC} ?

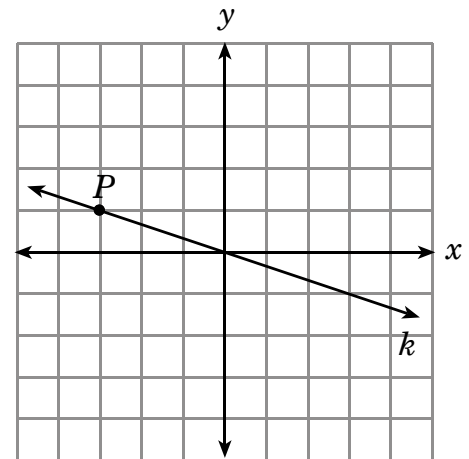
A $x = 2$

B $y = 3$

C $2x + 5y = 10$

D $x - 4y = -2$

7. Line k contains point P and the origin.



Which is an equation of the line that is perpendicular to line k and passes through point P ?

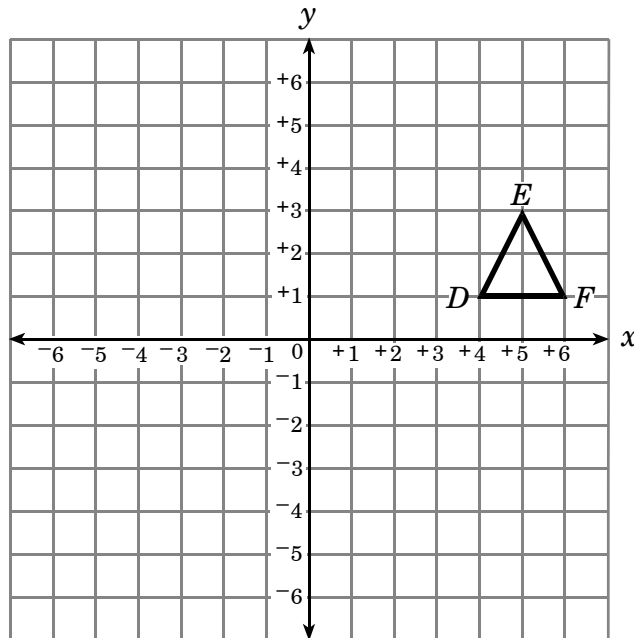
A $y = -\frac{1}{3}x$

B $y = \frac{1}{3}x + 2$

C $y = -3x - 8$

D $y = 3x + 10$

8. If $\triangle DEF$ is reflected across the line $y = x$, what is the coordinate of D' ?



- A (1, 4)
- B (1, 6)
- C (3, 5)
- D (6, 1)

9. $\triangle GHJ$ with vertices $G(-2, 4)$, $H(3, 6)$, and $J(3, -2)$ is dilated by a factor of $\frac{1}{3}$. What are the coordinates of the vertex of the image $\triangle G'H'J'$ that lies in the second quadrant?

A $\left(-\frac{7}{3}, \frac{13}{3}\right)$

B $\left(-\frac{2}{3}, \frac{4}{3}\right)$

C $\left(1, -\frac{2}{3}\right)$

D $(1, 2)$

10. What is the rule for the composite transformation formed by a translation 2 units to the left and 3 units up, followed by a 90° counterclockwise rotation?

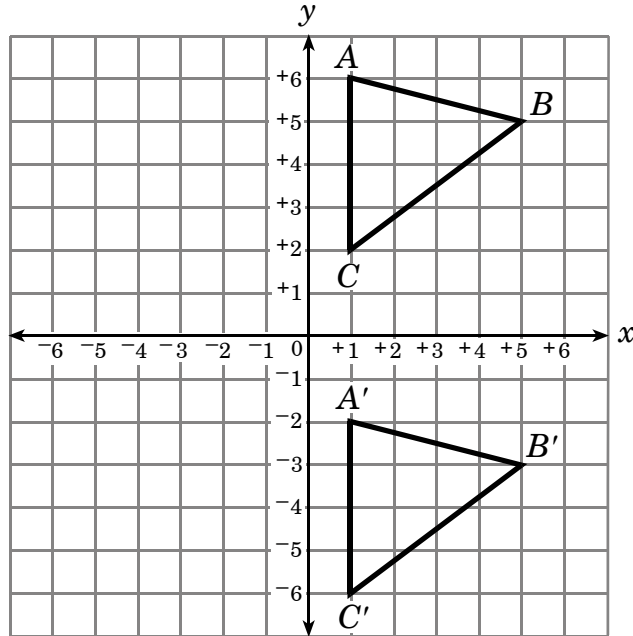
A $(x, y) \rightarrow (-3y, -2x)$

B $(x, y) \rightarrow (x - 2, y + 3)$

C $(x, y) \rightarrow (-y - 3, x - 2)$

D $(x, y) \rightarrow (-y + 2, x + 3)$

11. Which choice **best** describes the transformation shown in the drawing?



- A reflection over x -axis
- B reflection over y -axis
- C translation so (x, y) maps to $(x - 8, y)$
- D translation so (x, y) maps to $(x, y - 8)$

End of Goal 3 Sample Items

Answers to EOC Geometry Sample Items

Goal 3

- Objective 3.01**
Use slopes to determine if two lines are parallel or perpendicular.
Thinking Skill: Applying **Correct Answer:** A
- Objective 3.01**
Use slopes to determine if two lines are parallel or perpendicular.
Thinking Skill: Integrating **Correct Answer:** A
- Objective 3.01**
Use slopes to determine if two lines are parallel or perpendicular.
Thinking Skill: Applying **Correct Answer:** C
- Objective 3.01**
Use slopes to determine if two lines are parallel or perpendicular.
Thinking Skill: Applying **Correct Answer:** B
- Objective 3.02**
Write the equation of a line parallel or perpendicular to a given line through a given point.
Thinking Skill: Integrating **Correct Answer:** D
- Objective 3.02**
Write the equation of a line parallel or perpendicular to a given line through a given point.
Thinking Skill: Integrating **Correct Answer:** B
- Objective 3.02**
Write the equation of a line parallel or perpendicular to a given line through a given point.
Thinking Skill: Applying **Correct Answer:** D
- Objective 3.03**
Transform (translate, reflect, rotate, dilate) polygons in the coordinate plane; describe the transformation in simple algebraic terms.
Thinking Skill: Integrating **Correct Answer:** A
- Objective 3.03**
Transform (translate, reflect, rotate, dilate) polygons in the coordinate plane; describe the transformation in simple algebraic terms.
Thinking Skill: Analyzing **Correct Answer:** B
- Objective 3.03**
Transform (translate, reflect, rotate, dilate) polygons in the coordinate plane; describe the transformation in simple algebraic terms.
Thinking Skill: Generating **Correct Answer:** C

Answers to EOC Geometry Sample Items

Goal 3

11. Objective 3.03

Transform (translate, reflect, rotate, dilate) polygons in the coordinate plane; describe the transformation in simple algebraic terms.

Thinking Skill: Analyzing

Correct Answer: D