TEST NAME: **NAMSCM811314G-3**
TEST ID: **96674**
GRADE: **08**
SUBJECT: **Mathematics**
TEST CATEGORY: **My Classroom**

Student:

Class:

Date:

1. Triangle *PQR* is drawn in quadrant III and then reflected over the *y*-axis. What can be inferred about the coordinates for *P′Q′R′*?

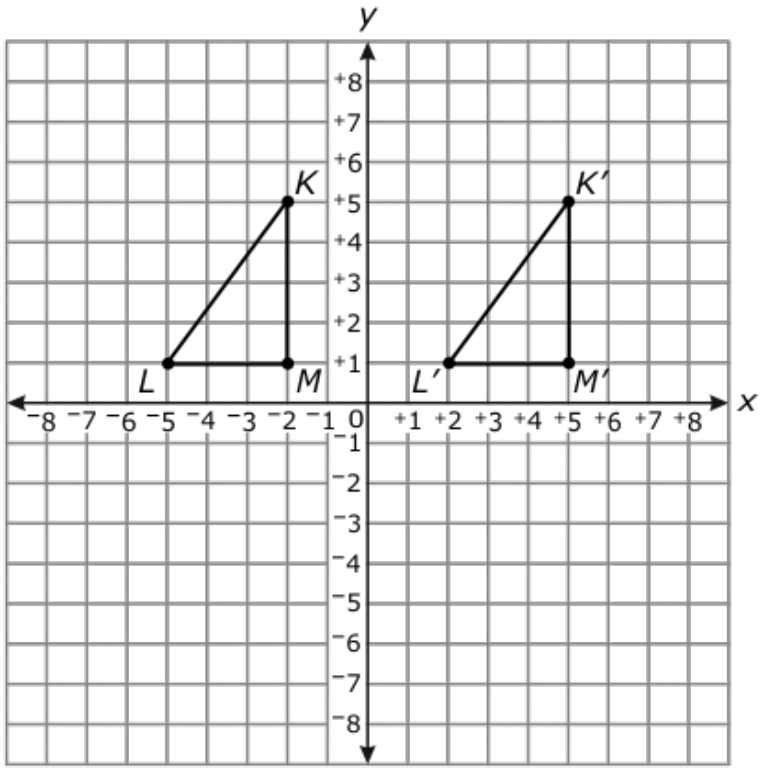
   A. The *x*- and *y*-coordinates will be positive.

   B. The *x*- and *y*-coordinates will be negative.

   C. The *x*-coordinates will be negative, and the *y*-coordinates will be positive.

   D. The *x*-coordinates will be positive, and the *y*-coordinates will be negative.

2. Triangle *KLM* was transformed to triangle *K′L′M′*.



What type of transformation occurred?

   A. translation

   B. rotation

   C. reflection

3. Triangle *EFG* has vertices at *E*(0, 0), *F*(0, 3), and *G*(⁻2, 0). The triangle will be rotated 270° counterclockwise about the origin. What will be the coordinates of the triangle *E′F′G′*?

   A. *E′*(0, 0), *F′*(⁻3, 0), *G′*(0, ⁻2)

   B. *E′*(0, 0), *F′*(3, 0), *G′*(0, 2)

   C. *E′*(0, 0), *F′*(0, 3), *G′*(2, 0)

   D. *E′*(0, 0), *F′*(3, 0), *G′*(0, ⁻2)

4. Triangle *KLM* has vertices *K*(1, 3), *L*(1, 1), and *M*(4, 1). Triangle *KLM* will be translated 3 units to the left and 4 units down. What will be the coordinates of the image point *K′*?

   A. (4, 7)

   B. (4, ⁻1)

   C. (⁻2, 7)

   D. (⁻2, ⁻1)

5. Trapezoid *LMNP* has vertices at *L*(⁻9, ⁻3), *M*(⁻5, ⁻3), *N*(⁻4, ⁻7), and *P*(⁻11, ⁻7). The trapezoid will be rotated 180° clockwise about the origin. What will be the coordinates of *L′*?

   A. (9, 3)

   B. (3, 9)

   C. (⁻9, 3)

6. The coordinates of a triangle are (2, ⁻3), (2, ⁻5), and (5, ⁻5). The triangle will be dilated by a scale factor of 10. What will be the coordinates of the image triangle?

   A. (20, ⁻30), (20, 50), and (⁻50, 50)

   B. (20, ⁻30), (20, ⁻50), and (50, ⁻50)

   C. (⁻20, 30), (20, ⁻50), and (⁻50, 50)

   D. (⁻20, 30), (⁻20, 50), and (50, ⁻50)

7. The vertices of a triangle are located at (⁻4, 6), (⁻6, 6), and (⁻5, 4). The triangle will be reflected over the *y*-axis. What will be the coordinates of the image triangle?

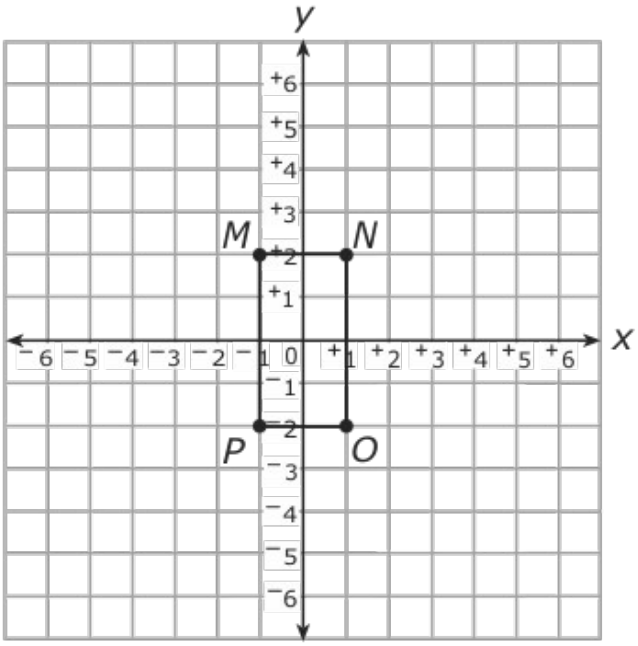
A. (⁻4, ⁻6), (⁻6, ⁻6), (⁻5, ⁻4)

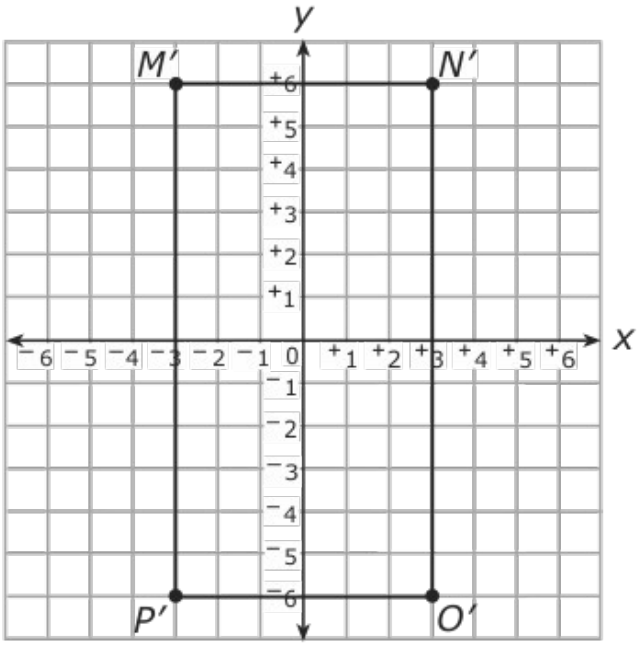
B. (4, ⁻6), (6, ⁻6), (5, ⁻4)

C. (4, 6), (6, 6), (5, 4)

D. (6, ⁻4), (6, ⁻6), (4, ⁻5)

8. Rectangle *MNOP* was dilated producing rectangle *M′N′O′P′*.





What scale factor was applied to rectangle *MNOP* to produce rectangle *M′N′O′P′*?

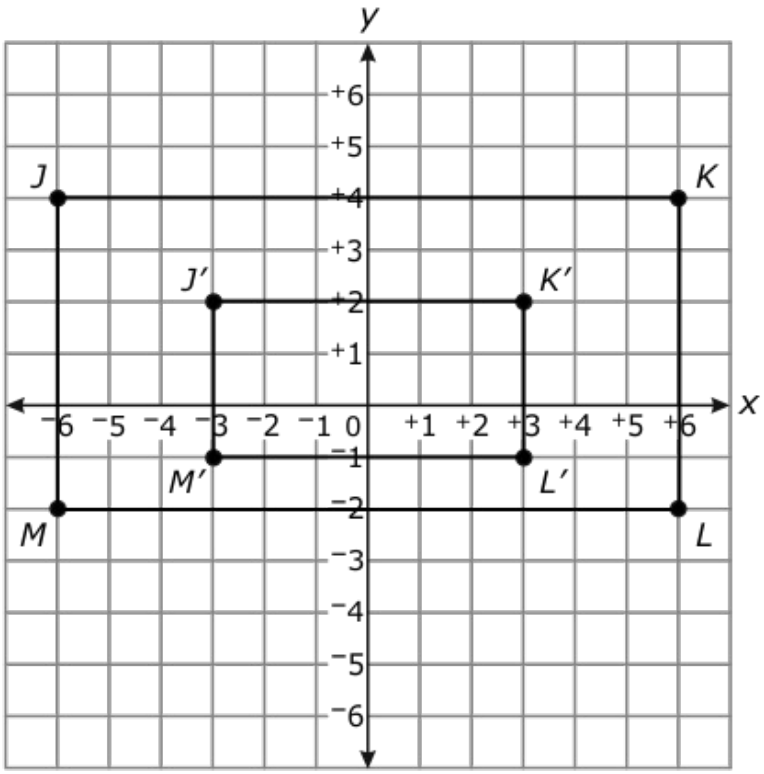
A. $\frac{1}{3}$

B. $\frac{1}{2}$

C. 2

D. 3

9. On the graph below, rectangle *JKLM* was dilated to create rectangle *J′K′L′M′*.



What scale factor was used for this dilation?

A. $\frac{1}{2}$

B. 2

C. 3

10. The vertices of a trapezoid are $E(2, 2)$, $F(^{-}2, 2)$, $G(^{-}1, 1)$, and $H(1, 1)$. The trapezoid will be reflected over the x-axis. What will be the coordinates of the image point E'?

A. $(^{-}2, ^{-}4)$

B. $(^{-}2, ^{-}2)$

C. $(^{-}2, 2)$

D. $(2, ^{-}2)$

11. Point *S* on a coordinate plane is located at (⁻3, 4). The point will be translated 2 units left and 3 units down. What will be the coordinates of the image point *S*′?

A. (2, ⁻6)

B. (1, ⁻5)

C. (⁻5, 1)

D. (⁻6, 2)

12. The endpoints of a line segment are located at *A*(0, 0) and *B*(0, 2). The line will be translated 2 units up. What will be the new coordinates of the endpoints of the line segment?

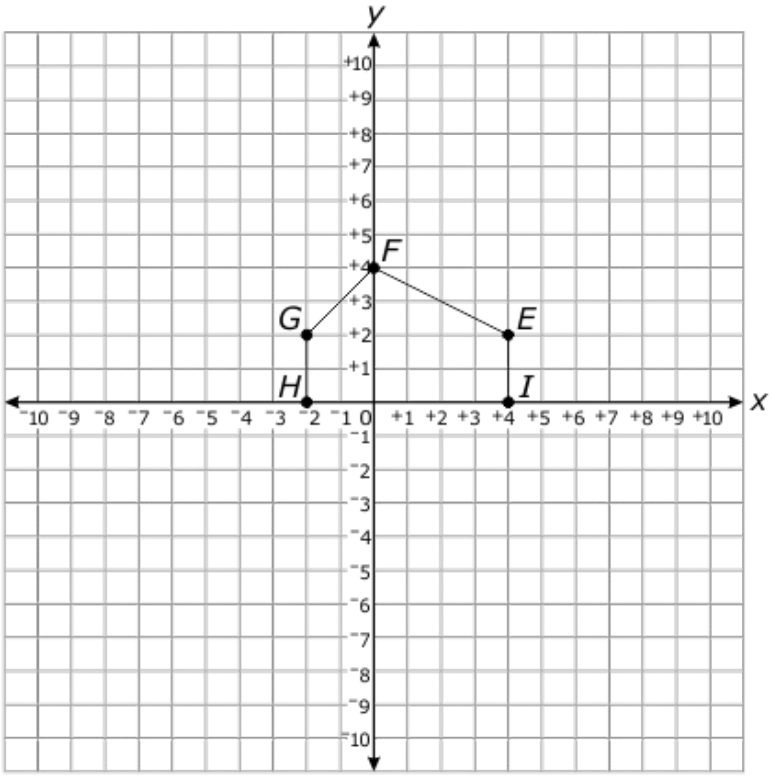
A. (2, 0) and (2, 2)

B. (2, 2) and (2, 4)

C. (1, 1) and (1, 3)

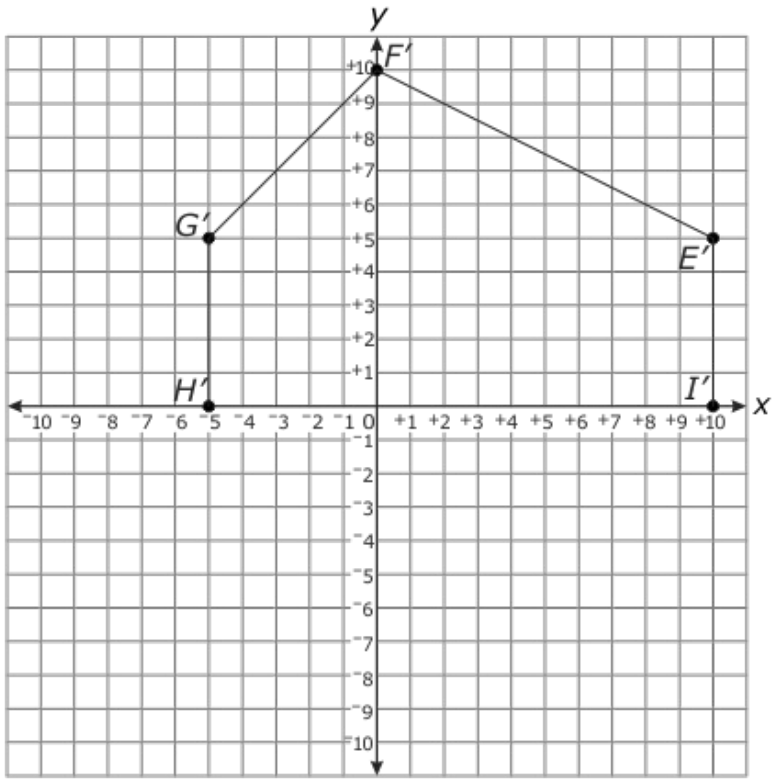
D. (0, 2) and (0, 4)

13. Pentagon *EFGHI* will be dilated by a scale factor of 2.5.

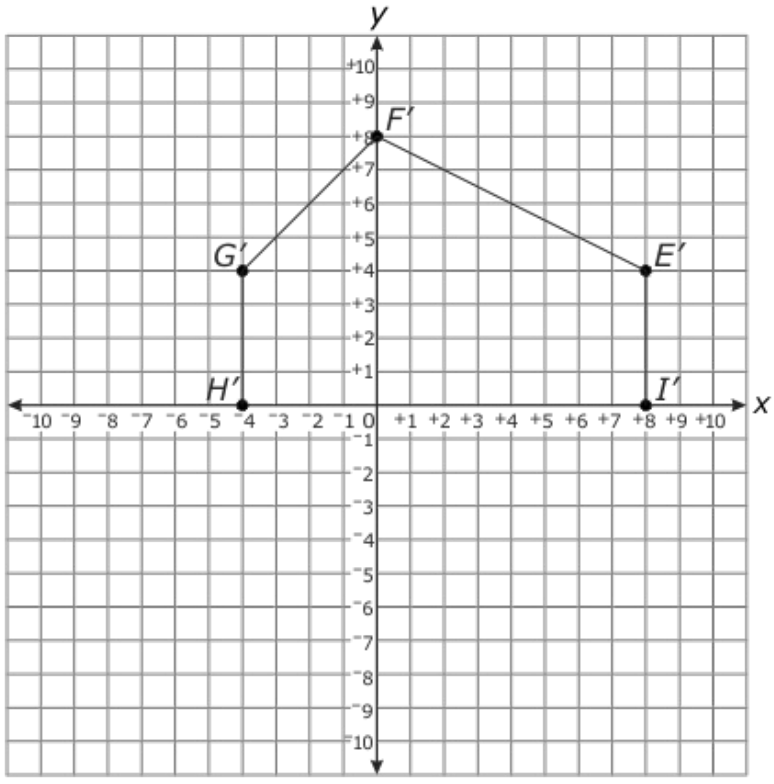


Which image represents pentagon *E*′*F*′*G*′*H*′*I*′?

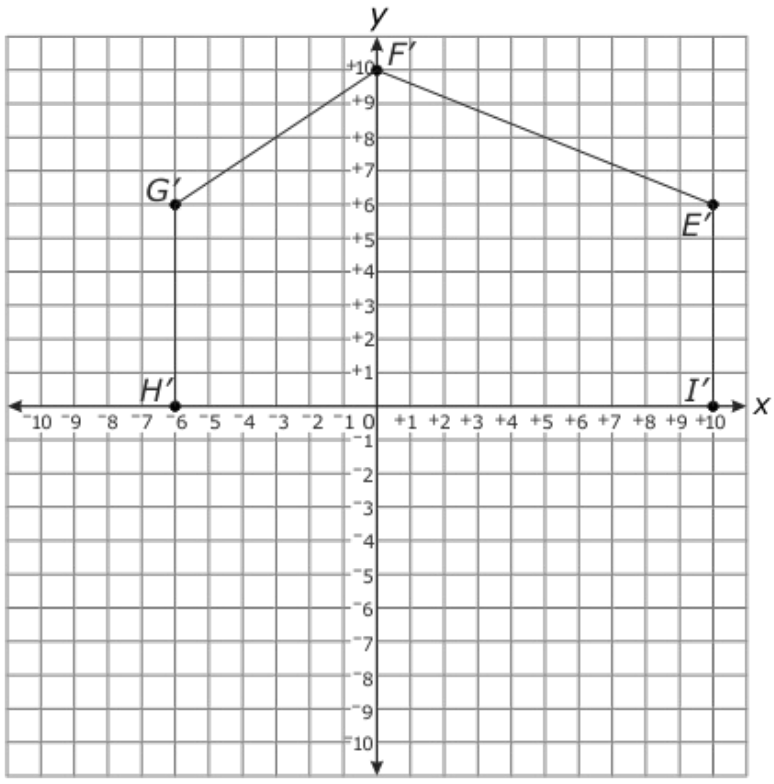
A.



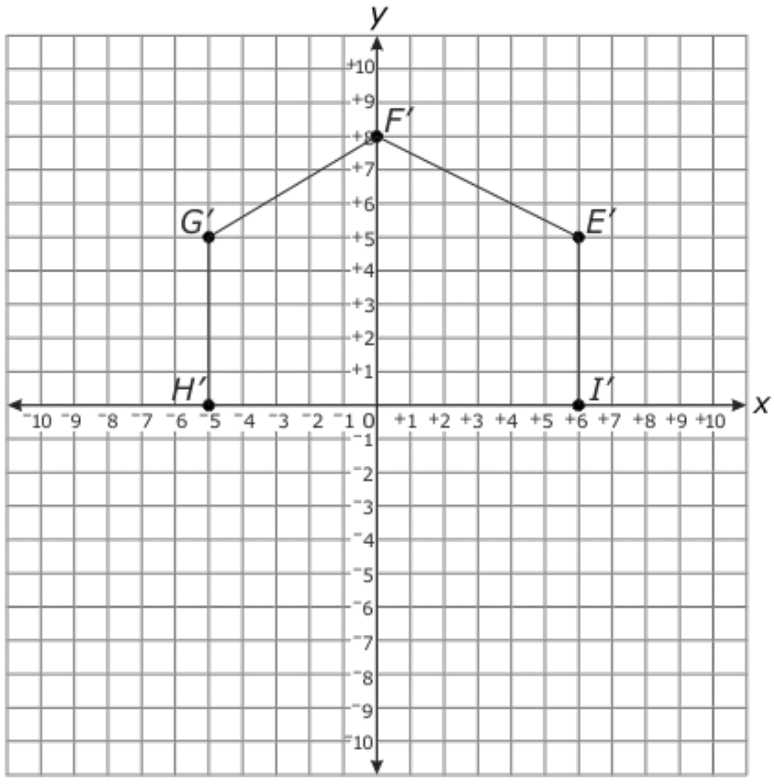
B.



C.



D.



14. The vertices of a square are $W(3, 3)$, $X(3, -3)$, $Y(-3, -3)$, and $Z(-3, 3)$. The square will be dilated using a scale factor of 2. What will be the coordinates of the image?

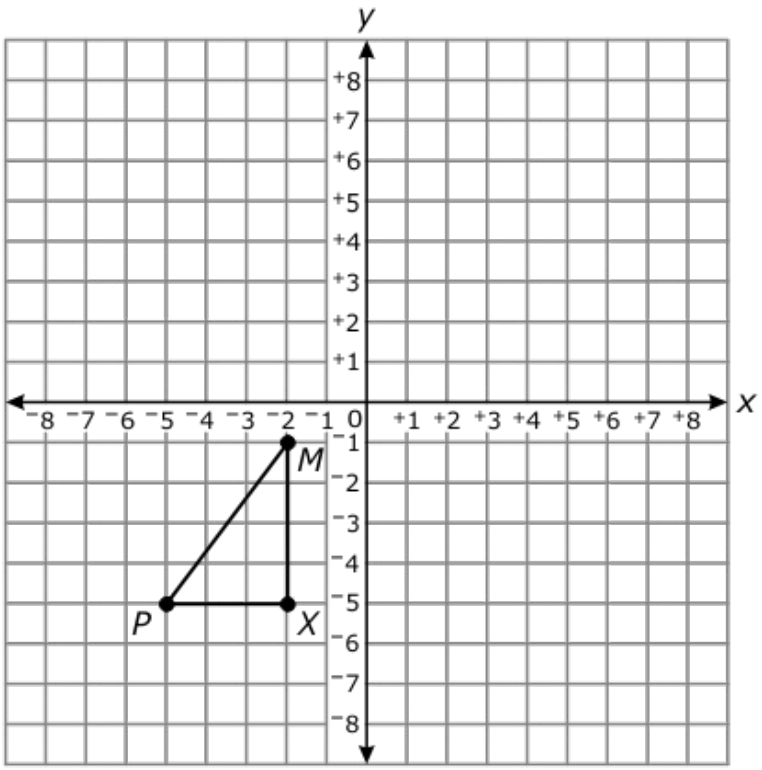
A. $W'(1.5, 1.5)$, $X'(1.5, -1.5)$, $Y'(-1.5, -1.5)$, $Z'(-1.5, 1.5)$

B. $W'(5, 5)$, $X'(5, -5)$, $Y'(-5, -5)$, $Z'(-5, 5)$

C. $W'(6, 6)$, $X'(6, -6)$, $Y'(-6, -6)$, $Z'(-6, 6)$

D. $W'(9, 9)$, $X'(9, -9)$, $Y'(-9, -9)$, $Z'(-9, 9)$

15. Triangle *MXP* will be rotated 90° clockwise about the origin.



What will be the coordinates of triangle $M'X'P'$?

A. $M'(1, -2)$, $X'(5, -2)$, $P'(5, -5)$

B. $M'(2, -1)$, $X'(2, -5)$, $P'(5, -5)$

C. $M'(-1, 2)$, $X'(-5, 2)$, $P'(-5, 5)$

16. The vertices of triangle *MNP* are *M*(2, 5), *N*(2, ⁻3), and *P*(5, ⁻3). The triangle will be reflected over the *y*-axis. What will be the coordinates of the image point *N'*?

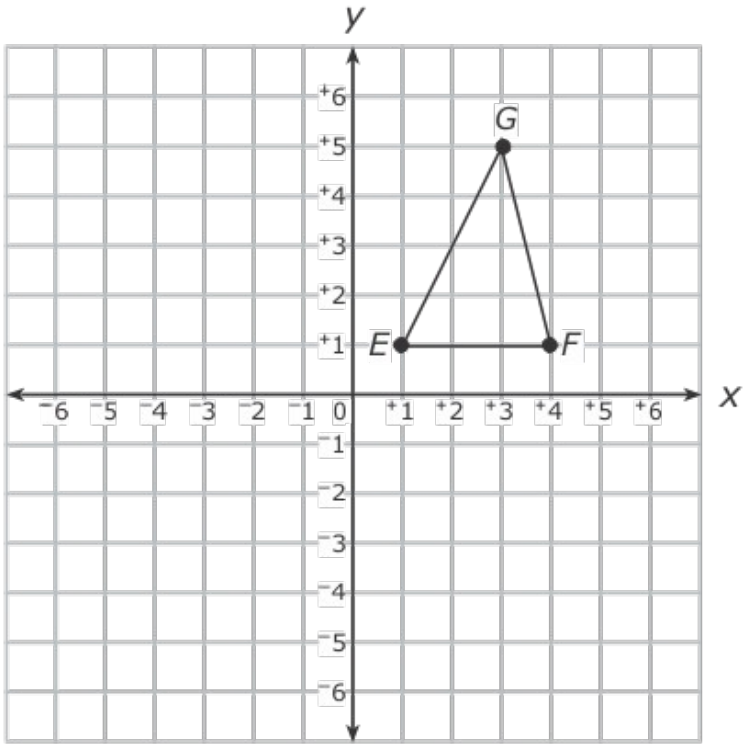
A. (2, ⁻3)

B. (⁻2, 3)

C. (⁻2, ⁻3)

D. (2, 3)

17. Triangle *EFG* will be translated 5 units down and 2 units to the left.



What will be the coordinates of *E'*?

A. (⁻4, 0)

B. (⁻1, ⁻4)

C. (2, 6)

D. (3, 6)

18. Triangle *PQR* has vertices *P*(1, 3), *Q*(4, 0), and *R*(⁻2, 0). Triangle *PQR* will be rotated 90° counterclockwise about the origin. What will be the coordinates of the image point *P'*?

A. (⁻1, ⁻3)

B. (⁻3, 1)

C. (3, ⁻1)

D. (3, 1)

19. Parallelogram *JKLM* has coordinates *J*(⁻2, ⁻1), *K*(0, 2), *L*(4, 2) and *M*(2, ⁻1). The image was dilated by a scale factor of 0.25. What are the coordinates of the image?

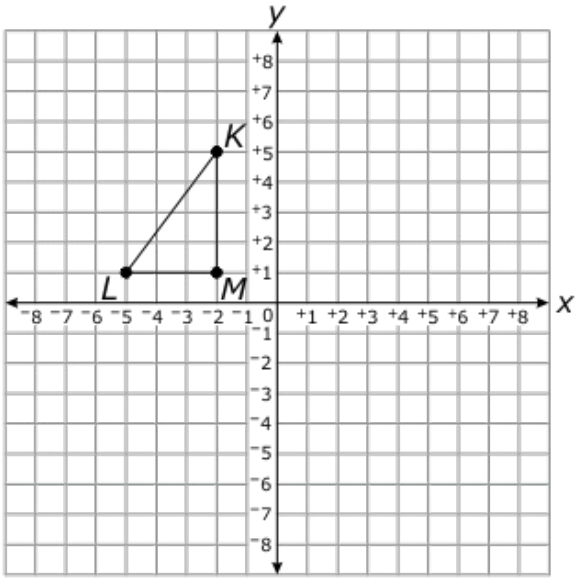
A. *J'*(⁻1, ⁻0.5), *K'*(0, 1), *L'*(2, 1), *M'*(1, ⁻0.5)

B. *J'*(⁻0.5, ⁻0.25), *K'*(0, 0.5), *L'*(1, 0.5), *M'*(0.5, ⁻0.25)

C. *J'*(⁻0.5, 0.25), *K'*(0, 0.5), *L'*(1, 0.5), *M'*(0.5, 0.25)

D. *J'*(1, 0.5), *K'*(0, 1), *L'*(0.5, 1), *M'*(2, 1)

20. Triangle *KLM* is shown below.



Which type of transformation would result in an image triangle with vertices *K*′(5, 2), *L*′(1, 5), and *M*′(1, 2)?

A. reflection over the *y*-axis

B. reflection over the *x*-axis

C. rotation

D. translation

21. Rectangle *EFGH* has vertices at *E*(⁻5, 2), *F*(⁻2, 2), *G*(⁻5, 0), and *H*(⁻2, 0). Rectangle *EFGH* will be translated 3 units down. What will be the coordinates of *G*′?

A. (⁻5, 3)

B. (⁻5, ⁻3)

C. (⁻8, 0)

22. Triangle *EFG* has vertices *E*(⁻3, 4), *F*(⁻3, ⁻2), and *G*(5, ⁻2). After a dilation is applied, the image triangle *E*′*F*′*G*′ has vertices *E*′(⁻9, 12), *F*′(⁻9, ⁻6), and *G*′(15, ⁻6). What is the scale factor for the dilation?

A. 2

B. 3

C. 4

D. 5

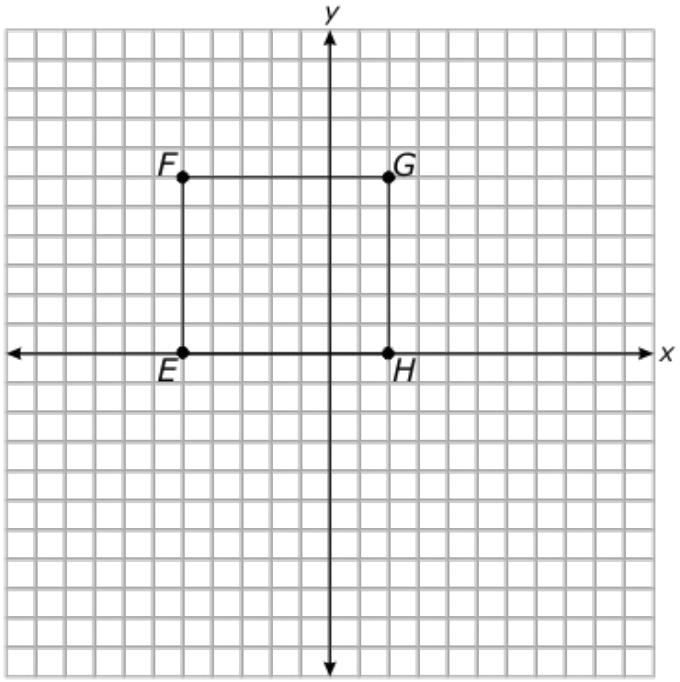
23. Triangle *XYZ* has vertices at *X*(3, 2), *Y*(⁻3, 2), and Z(⁻1, 5). Triangle *XYZ* will be reflected over the *x*-axis. What will be the coordinates of *Z*'?

A. (1, 5)

B. (⁻1, ⁻5)

C. (⁻5, ⁻1)

24. Rectangle *EFGH* will be rotated 90° clockwise about the origin.



What will be the coordinates of the image point *G*'?

A. (⁻2, ⁻6)

B. (⁻2, 6)

C. (6, ⁻2)

D. (6, 2)

25. Triangle *FGH* was rotated 90° counterclockwise about the origin. The image has vertices located at $F'(^{-}1, ^{-}3)$, $G'(2, ^{-}2)$, $H'(2, ^{-}4)$. What are the coordinates of *F* ?

A. $(^{-}3, 1)$

B. $(^{-}1, 3)$

C. $(1, ^{-}3)$

D. $(3, ^{-}1)$

26. Figure *X'* is the image of figure *X* after a dilation.

Figure X

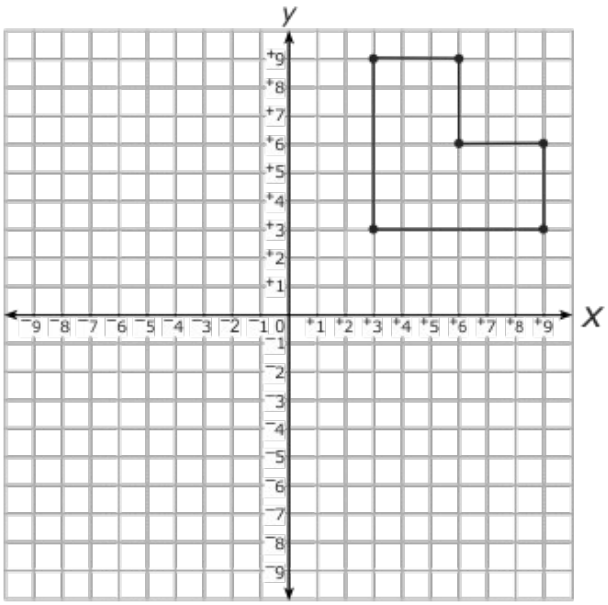
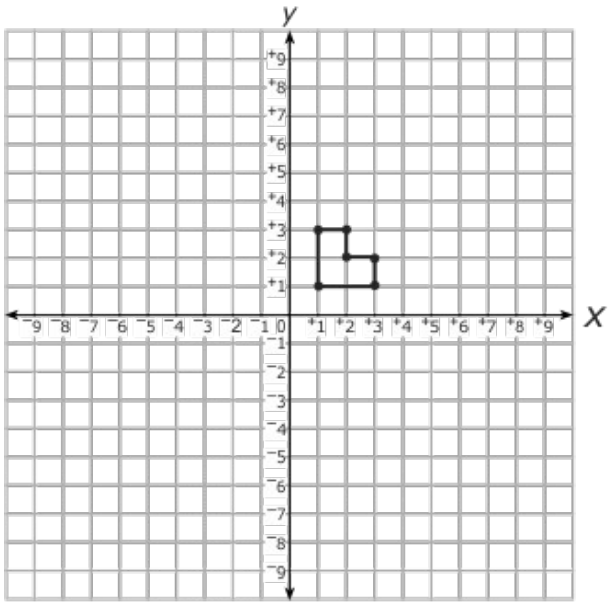


Figure X'



What scale factor was used for the dilation?

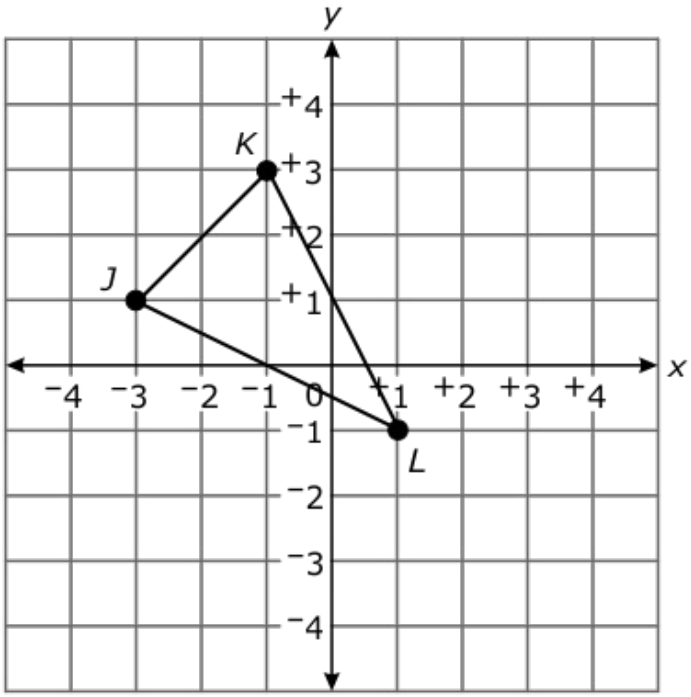
A. 3

B. $\frac{1}{3}$

C. 2

D. $\frac{1}{2}$

27. Triangle *JKL* will be dilated by a scale factor of 2 with the origin as the center of dilation.



What are the vertices of triangle *J'K'L'*?

A. *J'*(⁻1, 3), *K'*(1, 5), *L'*(3, 1)

B. *J'*(⁻6, 2), *K'*(⁻2, 6), *L'*(2, ⁻2)

C. *J'*(⁻6, 1), *K'*(⁻2, 3), *L'*(2, ⁻1)

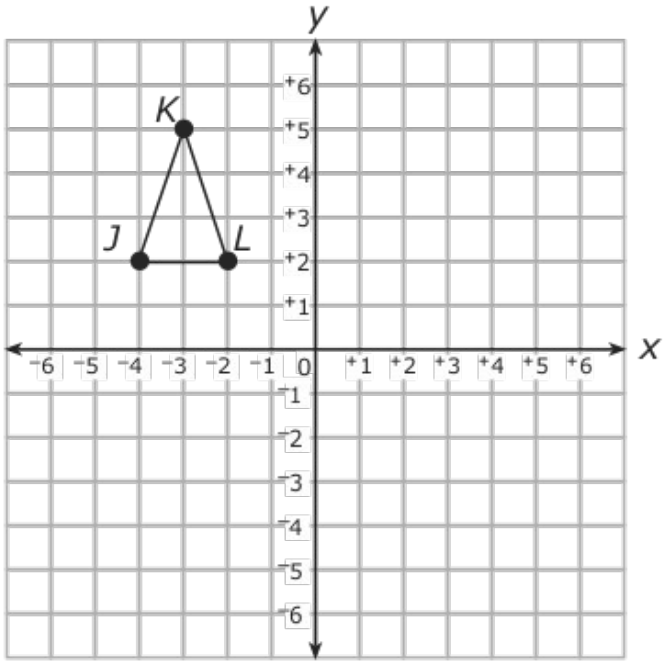
28. Triangle *JKL* has vertices at coordinates *J*(8, 4), *K*(⁻3, 9), and *L*(1, ⁻7). Triangle *JKL* will be translated 5 units up. What will be the coordinates of *K'*?

A. (2, 9)

B. (2, 14)

C. (⁻3, 14)

29. Triangle *JKL* is graphed below.



The triangle will be translated 8 units to the right and 6 units down. What will be the coordinates of the image point *J'*?

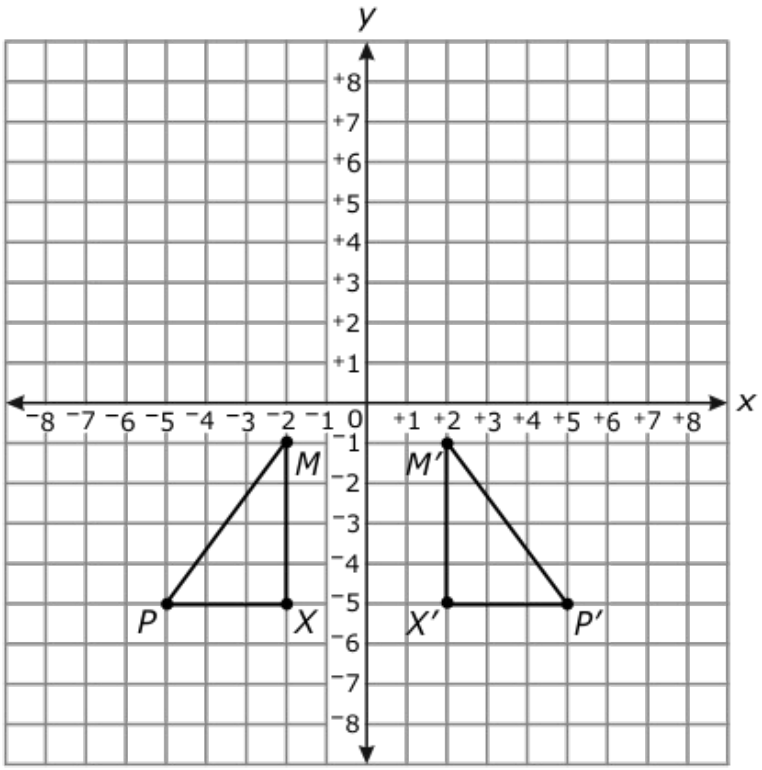
A. (2, ⁻6)

B. (4, ⁻4)

C. (6, ⁻4)

D. (6, ⁻8)

30. Triangle *MXP* was transformed to points *M*′(2, ⁻1), *X*′(2, ⁻5), and *P*′(4, ⁻5).



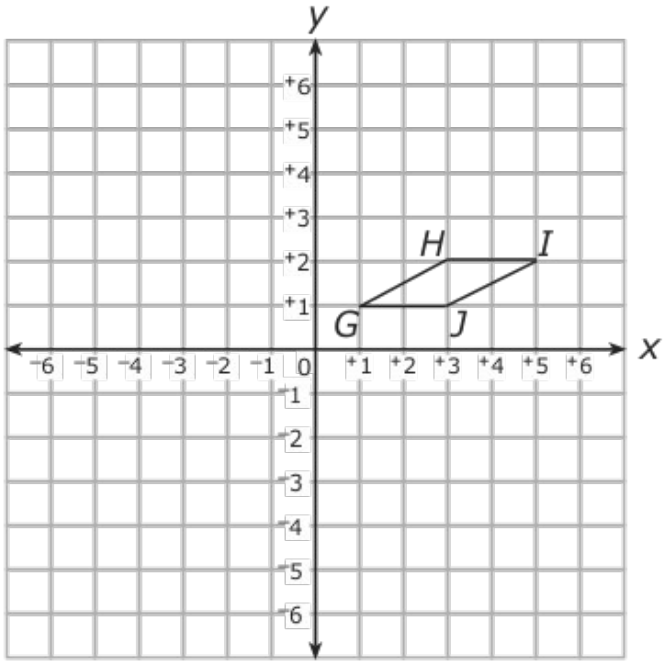
What type of transformation occurred?

A. rotation

B. translation

C. reflection

31. Parallelogram *GHIJ* is graphed below. The parallelogram will be translated three units to the left.



What will be the coordinates of the image parallelogram?

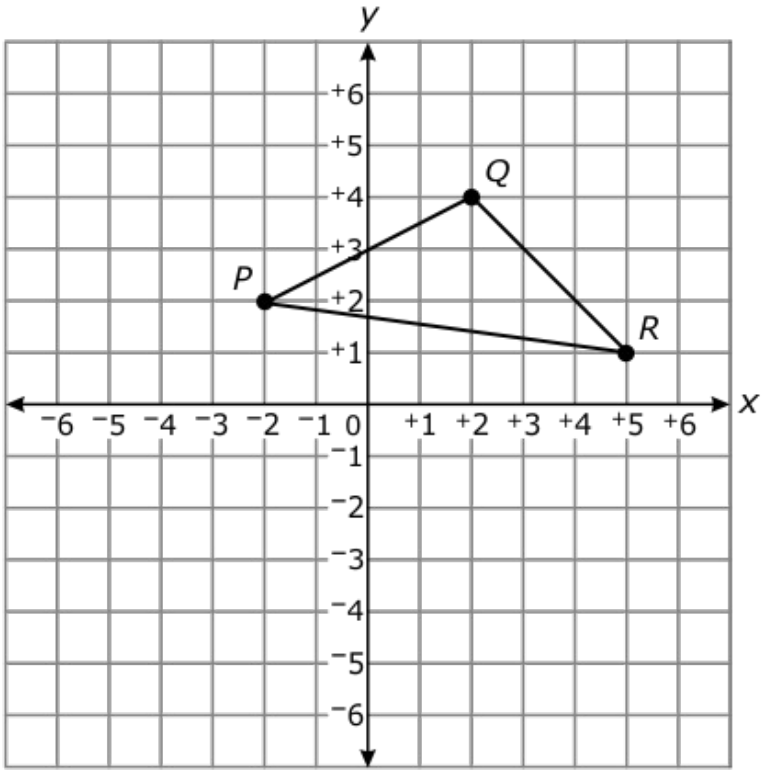
A. $G'(^{-}2, 1)$, $H'(0, 2)$, $I'(2, 2)$, $J'(0, 1)$

B. $G'(1, ^{-}2)$, $H'(2, ^{-}1)$, $I'(4, ^{-}1)$, $J'(3, ^{-}2)$

C. $G'(1, 1)$, $H'(2, 2)$, $I'(3, 1)$, $J'(4, 2)$

D. $G'(1, 4)$, $H'(2, 5)$, $I'(4, 5)$, $J'(3, 4)$

32. Triangle *PQR* will be translated 2 units down and 3 units to the left.



What will be the coordinates of *R'*?

A. (2, ⁻1)

B. (3, ⁻2)

C. (7, ⁻1)

33. Triangle *JKL* has vertices at the coordinates *J*(⁻4, ⁻5), K(⁻3, ⁻1), and *L*(⁻1, ⁻5). Triangle *JKL* is reflected over the *x*-axis. What are the coordinates of *J'*?

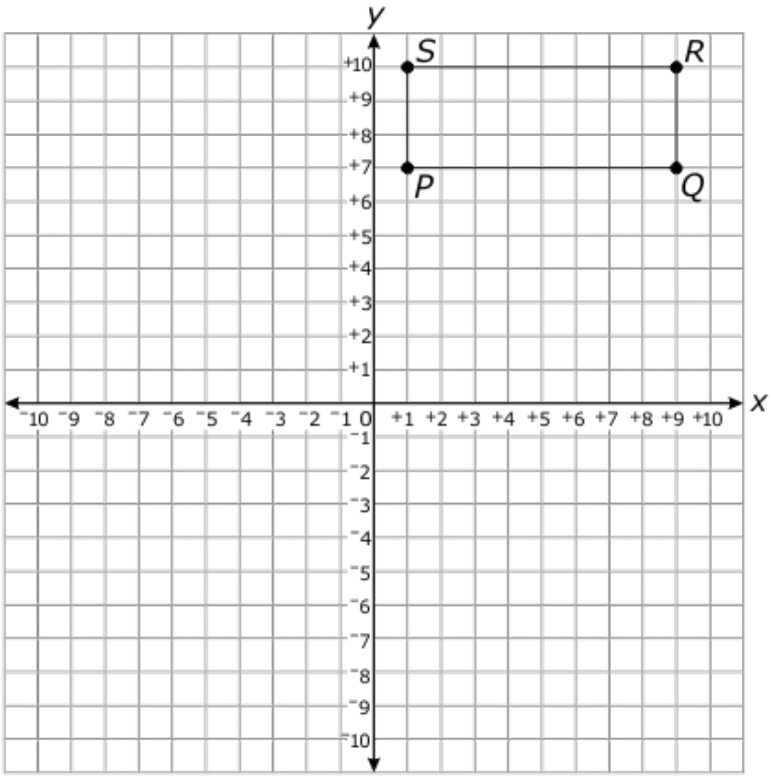
A. (⁻5, ⁻4)

B. (⁻4, 5)

C. (4, ⁻5)

D. (4, 5)

34. Rectangle *PQRS* will be rotated counterclockwise 270° about the origin.



What will be the coordinates of the image point *Q'*?

A. $(^{-}9, ^{-}7)$

B. $(^{-}7, 9)$

C. $(7, ^{-}9)$

D. $(9, ^{-}7)$

35. Rectangle *PQRS* will be rotated 90 degrees counterclockwise about the origin. The coordinates of vertex *P* are (1, 1). What will be the coordinates of the image point *P'*?

A. (1, 1)

B. $(1, ^{-}1)$

C. $(^{-}1, 1)$

D. $(^{-}1, ^{-}1)$

36. Triangle XYZ has vertices at $X(2, -1)$, $Y(-4, -1)$, and $Z(2, 2)$. The triangle will be dilated by a scale factor of 4. What will be the coordinates of triangle $X'Y'Z'$?

A. $X'(6, 3)$, $Y'(0, 3)$, $Z'(6, 6)$

B. $X'(8, -1)$, $Y'(-16, -1)$, $Z'(8, 2)$

C. $X'(8, -4)$, $Y'(-16, -4)$, $Z'(8, 8)$

37. A triangle has the coordinates $(-3, -1)$, $(1, -2)$, and $(1, -4)$. The triangle will be dilated by a scale factor of 5. What will be the coordinates of the image triangle?

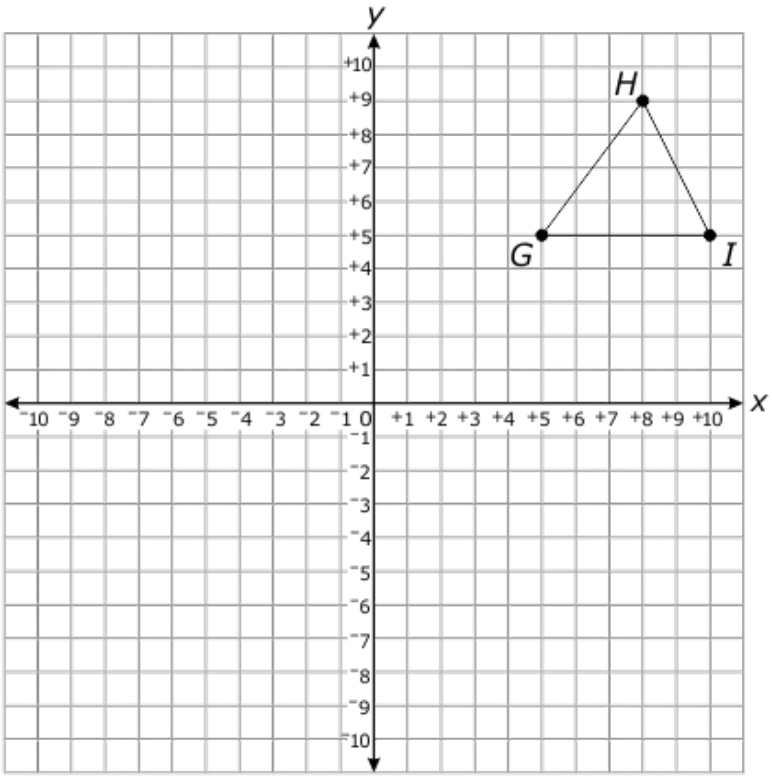
A. $(-15, -5)$, $(-5, -10)$, $(-5, -20)$

B. $(-15, -5)$, $(5, -10)$, $(5, -20)$

C. $(15, -5)$, $(5, -10)$, $(-5, 20)$

D. $(15, 5)$, $(5, 10)$, $(5, 20)$

38. Triangle *GHI* is graphed below.



The coordinates of *GHI* after a transformation are *G*′(⁻5, ⁻5), *H*′(⁻8, ⁻9), and *I*′(⁻10, ⁻5). Which transformation occurred?

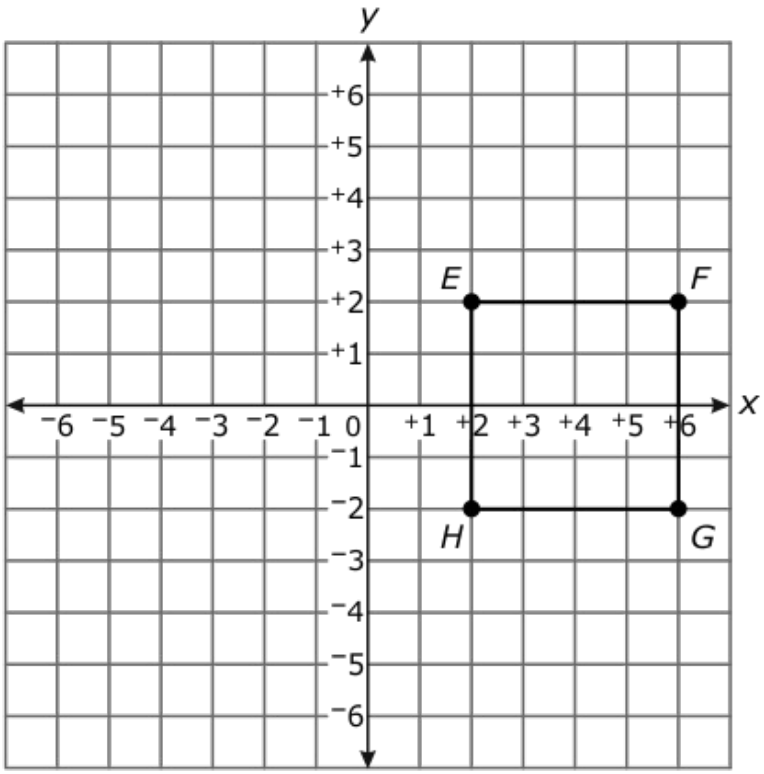
A. a rotation 180° counterclockwise about the origin

B. a rotation 90° clockwise about the origin

C. a reflection about the *x*-axis

D. a reflection about the *y*-axis

39. Square *EFGH* will be dilated by a scale factor of $\frac{1}{2}$.



What will be the coordinates of *G*'?

A. (3, ⁻1)

B. (3, ⁻2)

C. (12, ⁻4)

40. The vertices of a triangle are located at (⁻7, 8), (⁻6, 7), and (⁻5, 6). What will be the coordinates of the vertices after a reflection across the *x*-axis?

A. (⁻7, ⁻8), (⁻6, ⁻7), (⁻5, ⁻6)

B. (7, ⁻8), (6, ⁻7), (5, ⁻6)

C. (7, 8), (6, 7), (5, 6)

D. (8, ⁻7), (7, ⁻6), (6, ⁻5)

41. The vertices of a triangle are located at $E(0, 5)$, $F(0, 0)$, and $G(3, 0)$. The triangle will be reflected over the y-axis. What will be the coordinates of triangle $E'F'G'$?

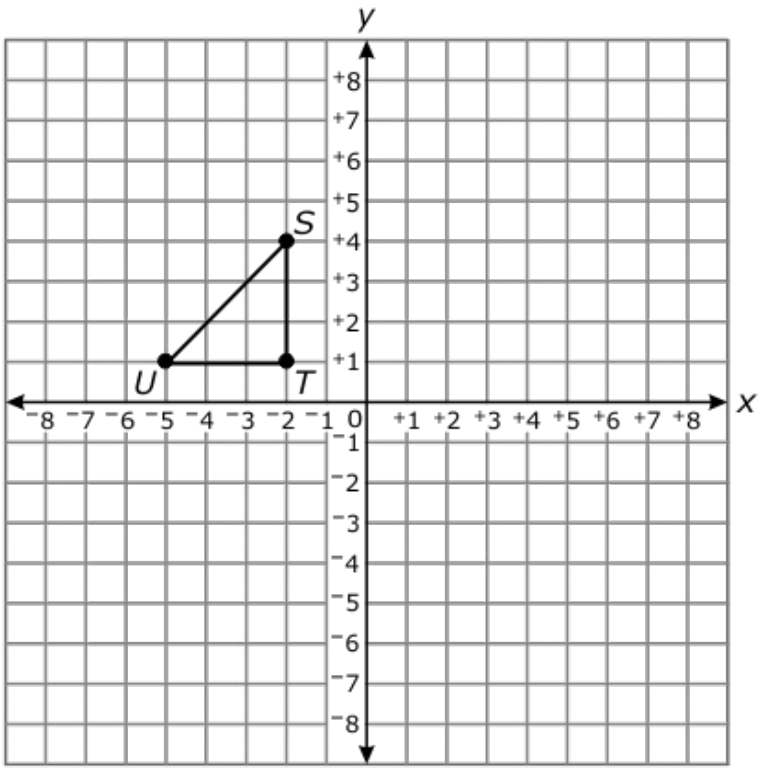
A. $E'(^{-}5, 0)$, $F'(0, 0)$, $G'(^{-}3, 0)$

B. $E'(0, ^{-}5)$, $F'(0, 0)$, $G'(3, 0)$

C. $E'(0, 5)$, $F'(0, 0)$, $G'(^{-}3, 0)$

D. $E'(0, 5)$, $F'(0, 0)$, $G'(0, ^{-}3)$

42. Triangle STU will be reflected over the y-axis.



What will be the coordinates of U'?

A. (5, 1)

B. (1, 5)

C. $(^{-}5, ^{-}1)$

43. Point *W* is located at (7, 3) on a coordinate plane. Point *W* is translated 2 units to the left and 3 units up. What are the coordinates of the image point *W'*?

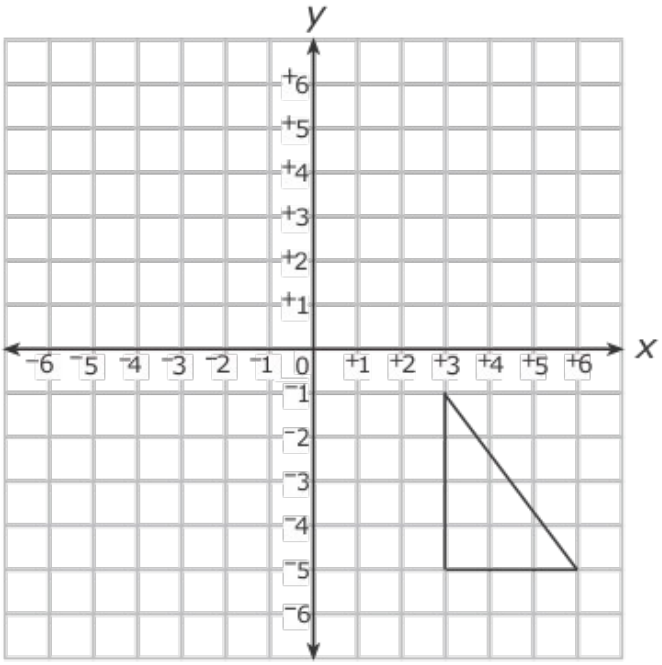
A. (10, 1)

B. (9, 0)

C. (5, 6)

D. (4, 1)

44. A triangle was translated 2 units to the right resulting in the image triangle graphed below.



What were the coordinates of the pre-image triangle?

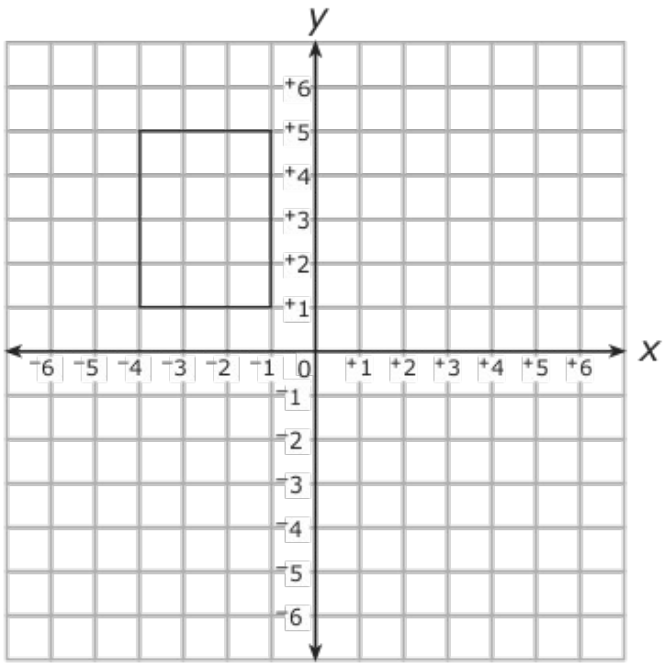
A. (3, 1), (3, ⁻3), (6, ⁻3)

B. (3, ⁻3), (3, ⁻7), (6, ⁻7)

C. (1, ⁻1), (1, ⁻5), (4, ⁻5)

D. (5, ⁻1), (5, ⁻5), (8, ⁻5)

45. The quadrilateral graphed below will be reflected over the *x*-axis.



What will be the coordinates of the vertices of the image quadrilateral?

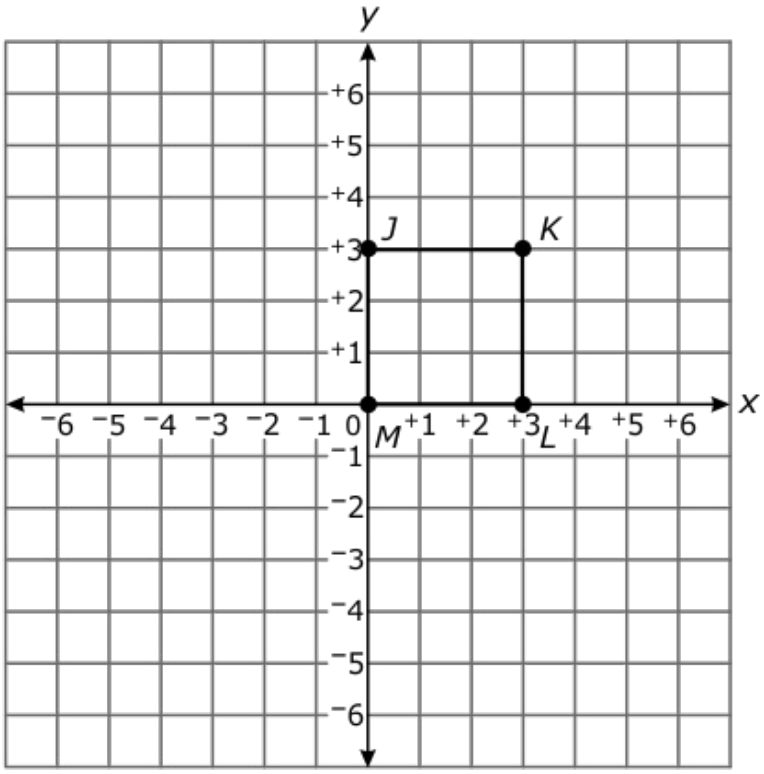
A. (4, ⁻1), (1, ⁻1), (1, 5), (4, ⁻5)

B. (1, 1), (1, 5), (4, 1), (4, 5)

C. (⁻1, 4), (⁻1, 1), (⁻5, 1), (⁻5, 4)

D. (⁻4, ⁻1), (⁻4, ⁻5), (⁻1, ⁻5), (⁻1, ⁻1)

46. Square *JKLM* will be reflected over the *y*-axis.



What will be the coordinates of *K'*?

A. (⁻3, 3)

B. (⁻3, ⁻3)

C. (3, ⁻3)

47. The vertices of triangle *GHI* are *G*(1, 2), *H*(3, 4), and *I*(4, 2). The triangle will be reflected across the *x*-axis. What will be the coordinates of the image point *H'*?

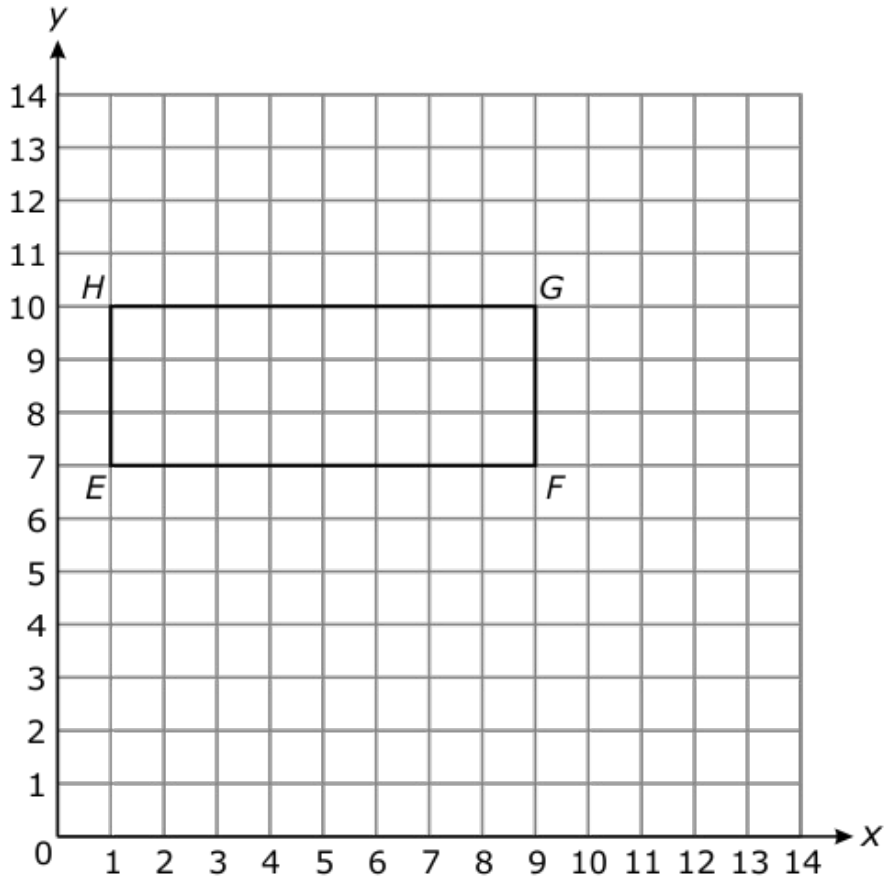
A. (⁻3, 4)

B. (3, 4)

C. (3, ⁻4)

D. (4, ⁻3)

48. Rectangle *EFGH* will be translated 3 units to the right and 5 units down.



What will be the coordinates of *G'*?

A. (6, 5)

B. (12, 5)

C. (14, 7)

49. Teri drew a triangle with vertices at (0, 0), (5, 0), and (3, 4). She rotated the triangle 90 degrees counter-clockwise about the origin. What are the coordinates of the new triangle?

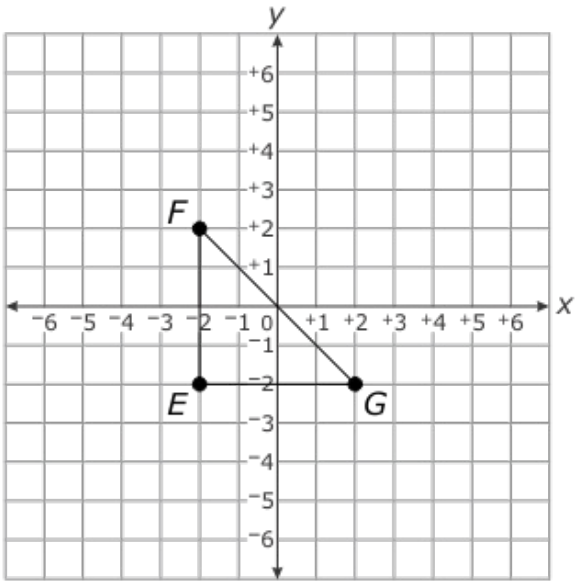
A. (0, 0), (0, 5), and ($^{-}$4, 3)

B. (0, 0), (0, 5), and ($^{-}$3, 4)

C. (0, 0), (0, $^{-}$5), and (3, $^{-}$4)

D. (0, 0), (0, $^{-}$5), and (4, $^{-}$3)

50. Triangle *EFG* will be rotated 180° clockwise about the origin.



What will be the coordinates of the image point *E′*?

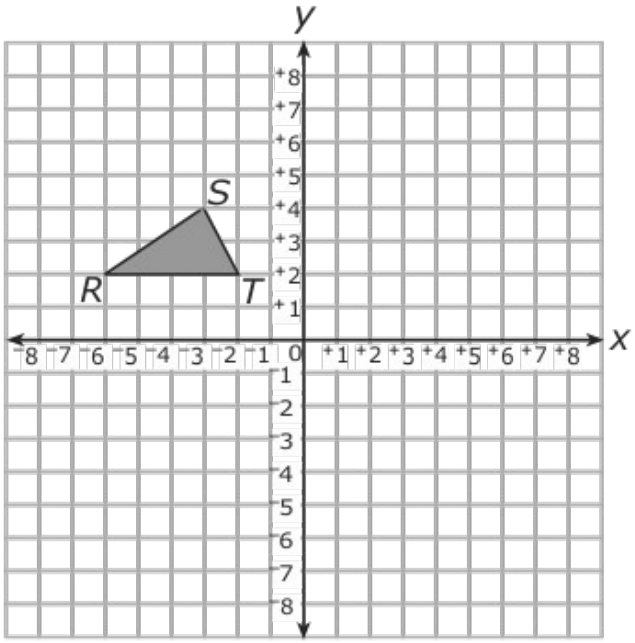
A. (⁻2, 2)

B. (2, 2)

C. (6, ⁻2)

D. (6, 2)

51. Triangle *RST* will be reflected across the *x*-axis.



What will be the coordinates of the resulting triangle *R'S'T'*?

A. *R'*(6, 2), *S'*(3, 4), *T'*(2, 2)

B. *R'*(2, 6), *S'*(4, 3), *T'*(2, 2)

C. *R'*(⁻2, 6), *S'*(⁻4, 3), *T'*(⁻2, 2)

D. *R'*(⁻6, ⁻2), *S'*(⁻3, ⁻4), *T'*(⁻2, ⁻2)

52. Parallelogram *FGHI* has vertices at *F*(⁻4, 7), *G*(⁻6, 4), *H*(⁻10, 4), and *I*(⁻8, 7). The parallelogram will be rotated 270° counterclockwise about the origin. What will be the coordinates of *G'*?

A. (⁻4, ⁻6)

B. (4, 6)

C. (6, 4)

53. Point Z is located at (3, 4). The point will be translated 2 units left and 4 units up. What will be the coordinates of the image point Z'?

A. (1, 8)

B. (1, 0)

C. (5, 0)

D. (5, 8)

54. A point was translated 5 units to the right and 3 units down. The point was located at (1, 5) after the translation. What were the coordinates of the point before the translation?

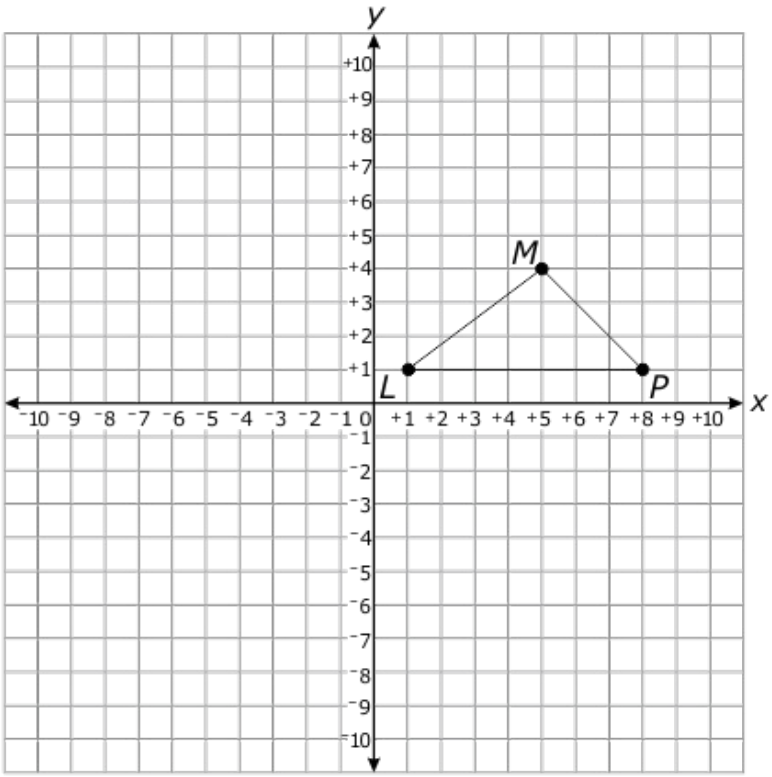
A. ($^{-}$4, 2)

B. ($^{-}$4, 8)

C. (6, $^{-}$1)

D. (6, 8)

55. Triangle *MLP* will be rotated 180° clockwise about the origin.



What will be the coordinates of *M*′?

A. (⁻5, ⁻4)

B. (⁻5, 4)

C. (⁻4, ⁻5)

D. (4, ⁻5)

56. The vertices of a triangle are located at (0, 4), (⁻2, 0), and (1, 0). The triangle will be dilated by a scale factor of 0.5. What will be the coordinates of the vertices of the image triangle?

A. (0.5, 2), (⁻1, 0), (0, 0)

B. (0, 2), (⁻1, 0), (0.5, 0)

C. (0, 2), (1, 0), (5, 0)

D. (0, 8), (⁻4, 0), (2, 0)

57. The coordinates of the vertices of triangle *KLM* are *K*(1, 3), *L*(1, 1), *M*(4, 1). The triangle will be translated 3 units to the right and 4 units up. What will be the coordinates of the image point *K'*?

A. (1, 7)

B. (4, 3)

C. (4, 7)

D. (5, 6)

58. Triangle *MNO* has coordinates *M*(0, 0), *N*(5, 3), and *O*(5, ⁻4). Triangle *MNO* will be rotated 270° counterclockwise about the origin. What will be the coordinates of *O'*?

A. (4, 5)

B. (4, ⁻5)

C. (⁻4, 5)

D. (⁻4, ⁻5)

59. A square with the coordinates (0, 0), (0, 3), (3, 3), and (3, 0) will be dilated by a factor of 4. What will be the new coordinates of the square?

A. (0, 0), (0, 3), (12, 12), (12, 0)

B. (0, 0), (0, 12), (12, 12), (12, 0)

C. (0, 0), (0, 12), (12, 4), (12, 0)

D. (4, 4), (4, 12), (12, 12), (12, 4)