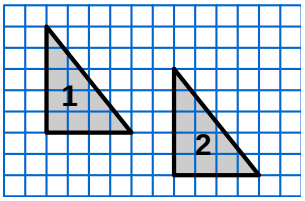
Name _____ Date _____

Geometry: Skill 5-21C

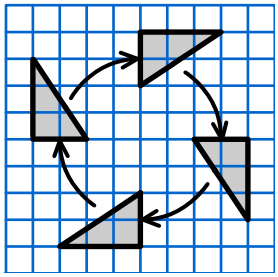
Transformations

Answers to test question 21C. Tell whether each picture shows a translation, reflection or rotation.



Answer:
Translation.

A translation is also called a slide. It is the movement of a figure in a straight line. The movement may be horizontal, vertical or diagonal.



Answer:
Rotation.

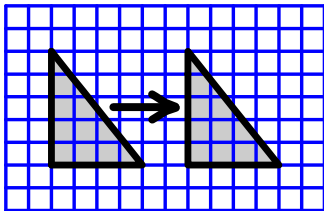
The figure shown here is turned 360°. A rotation may be turned any number of degrees up to 360°.

Transformation

A **transformation** is the movement of a figure. The size and shape of the figure remains the same.

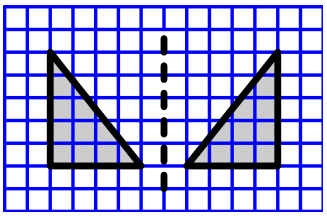
Translation

A translation is the sliding of a figure along a straight line. The figure may be moved horizontally, vertically or diagonally.



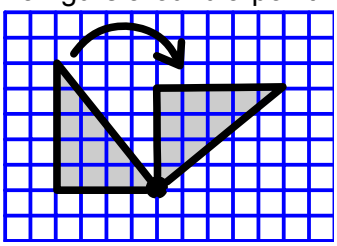
Reflection

A reflection, also called a flip, is flipping a figure over a line to show a mirror image of the figure.



Rotation

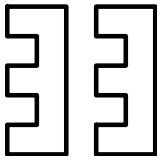
A rotation or a turn, is the turning of a figure around a point



This figure is turned 90° clockwise.

Directions: Write translation, reflection or rotation.

1.



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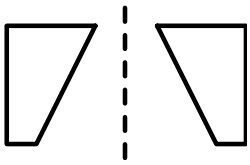
2.



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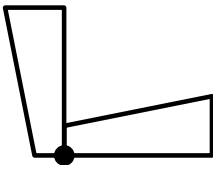
3.



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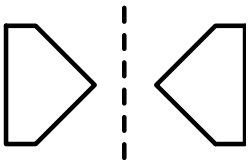
4.



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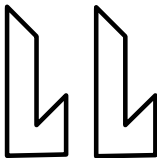
5.



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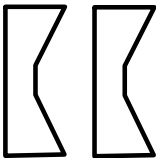
6.



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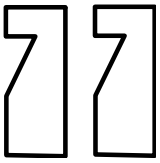
7.



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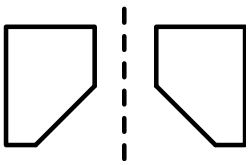
8.



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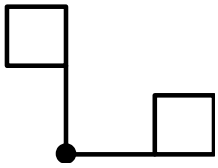
Geometry: Skill 5-21C

Transformations

Directions: Write translation, reflection or rotation.

9.



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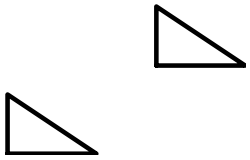
10.



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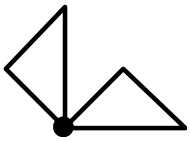
11.



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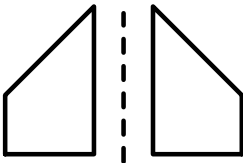
12.



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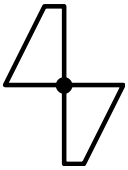
13.



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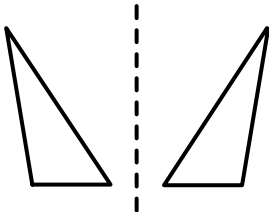
14.



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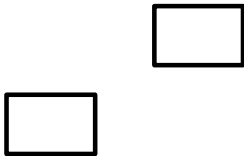
15.



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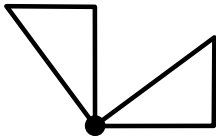
16.



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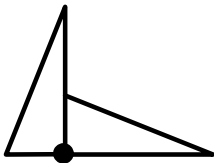
17.



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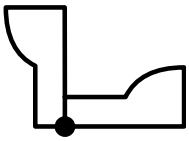
18.



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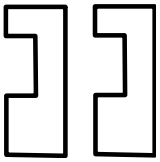
19.



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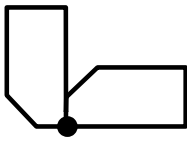
20.



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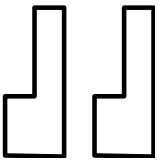
21.



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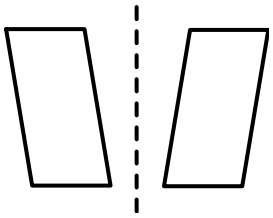
22.



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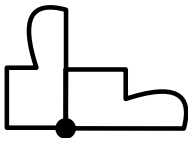
23.



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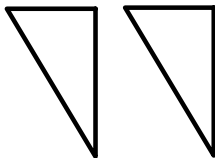
24.



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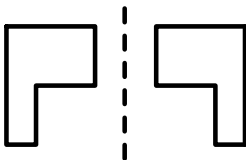
25.



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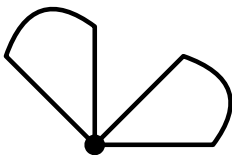
26.



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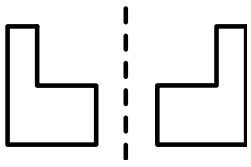
27.



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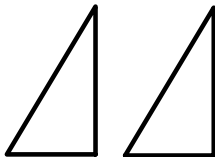
28.



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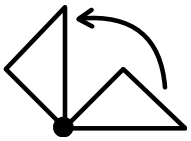
Geometry: Skill 5-21C

Transformations

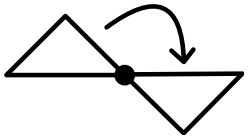
Directions: How was each rotation below moved. Write clockwise or counterclockwise. Then write 90°, 180° or 270°.

29.



Answer: counterclockwise 90°

30.



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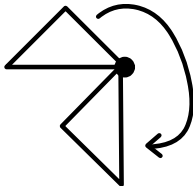
31.



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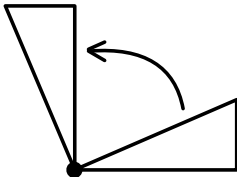
32.



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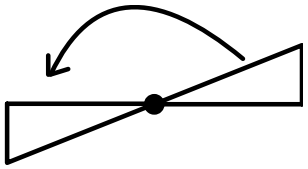
33.



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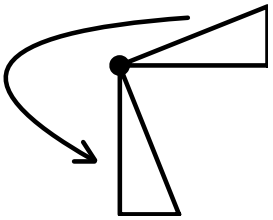
34.



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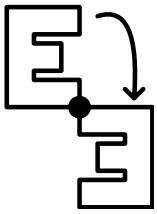
35.



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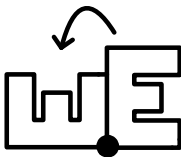
36.



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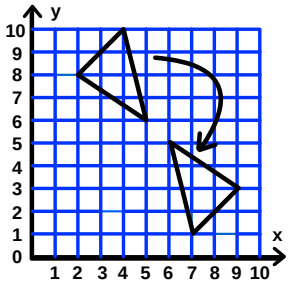
37.



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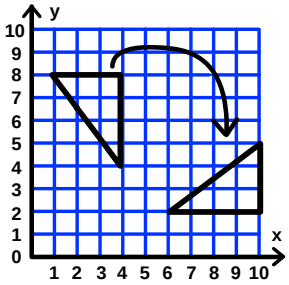
38.



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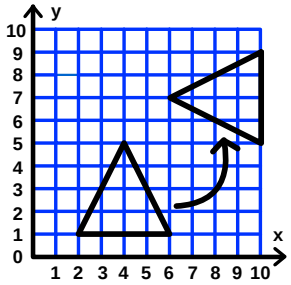
39.



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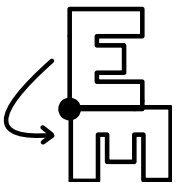
40.



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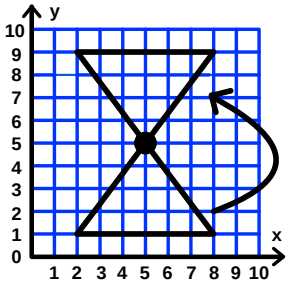
41.



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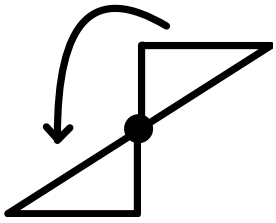
42.



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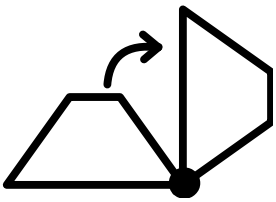
43.



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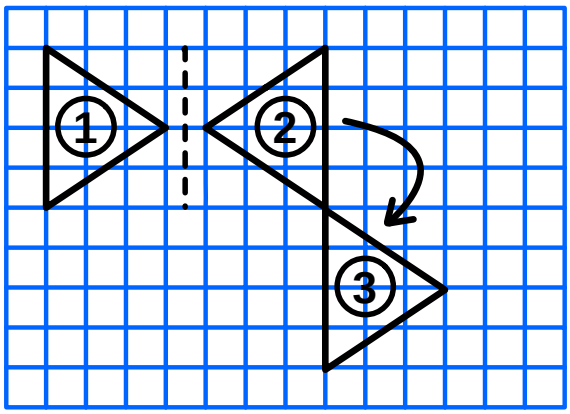
Geometry: Skill 5-21C

Combining Transformations

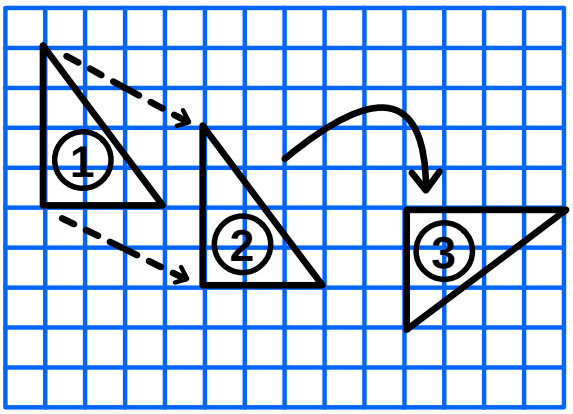
Directions: Write the combination of transformations. The first one is done for you.

44.



reflection, rotation

45.



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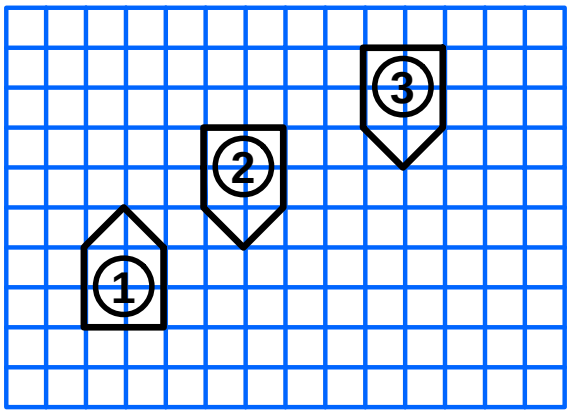
46.



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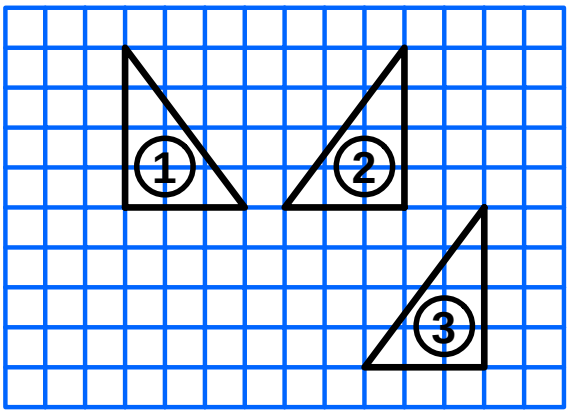
47.



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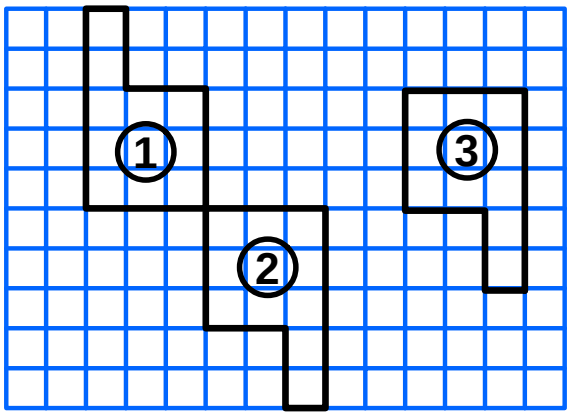
48.



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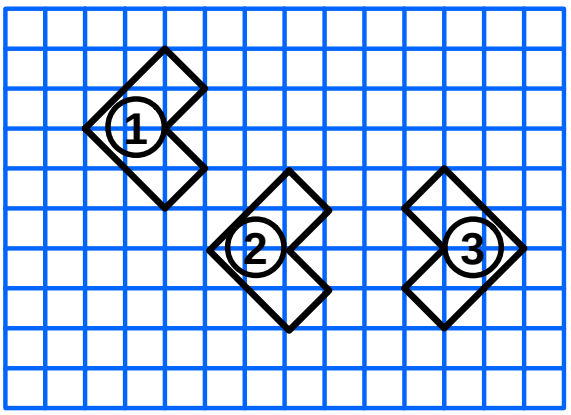
49.



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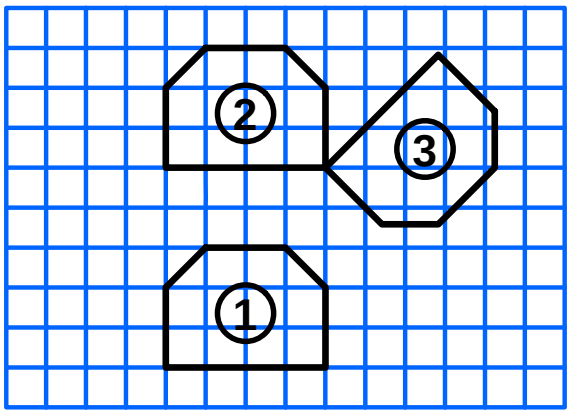
Geometry: Skill 5-21C

Combining Transformations

Directions: Write the combination of transformations.

50.



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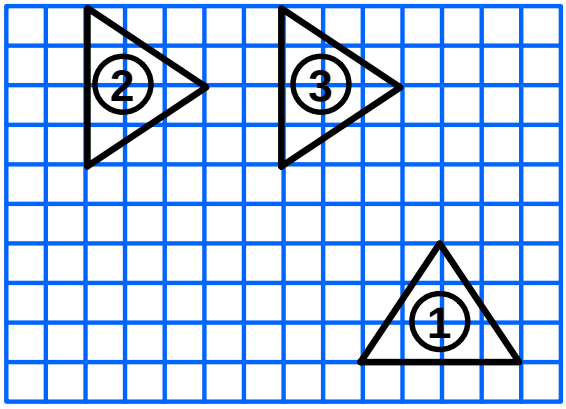
51.



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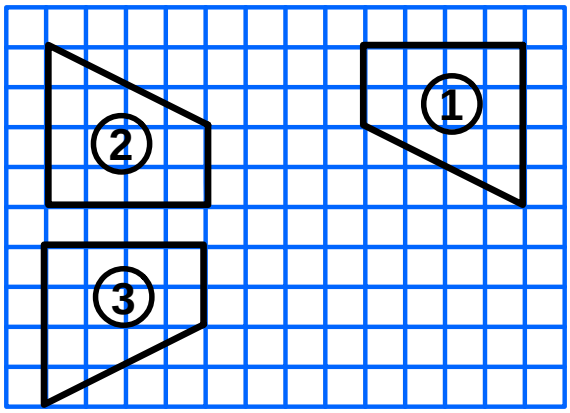
52.



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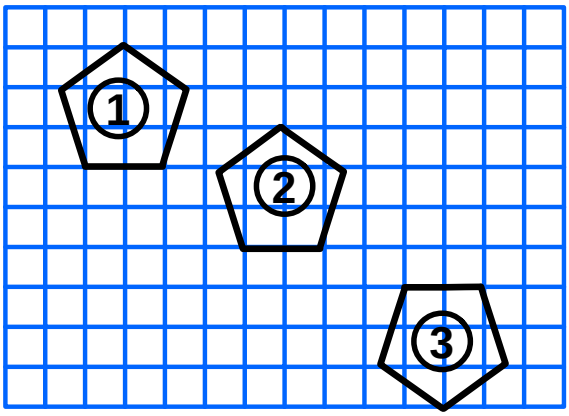
53.



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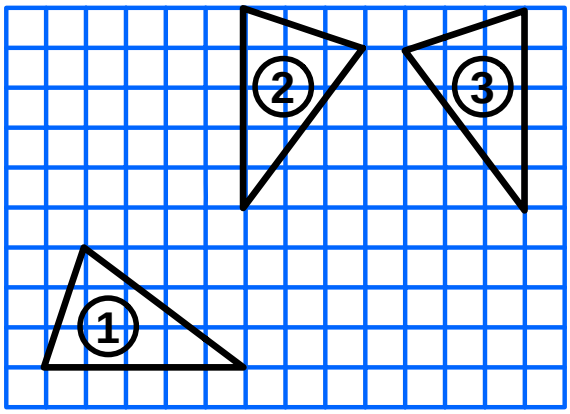
54.



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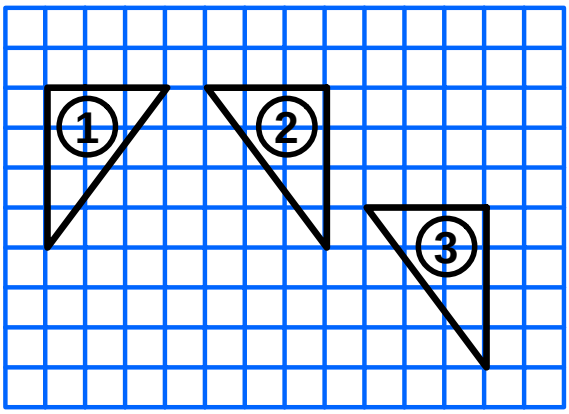
55.



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Geometry: Skill 5-21C

Combining Transformations

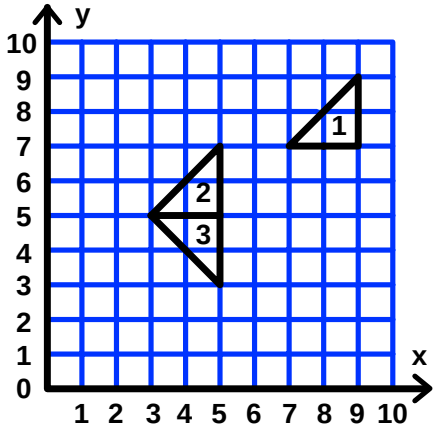
Directions: Write the combination of transformations.

56. Graph a triangle with the vertices below.
(9,7), (9,9), (7,7)

Graph the triangle with the new vertices to show the transformations and write translation, reflection or rotation.

(5,5), (5,7), (3,5) translation

(5,3), (5,5), (3,5) reflection

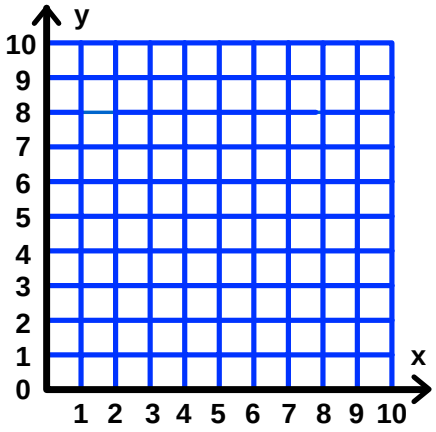


57. Graph a triangle with vertices below.
(1,1), (3,1), (1,4)

Graph the triangle with the new vertices to show the transformations.

(4,4), (6,4), (4,7) _____

(4,7), (7,7), (7,9) _____

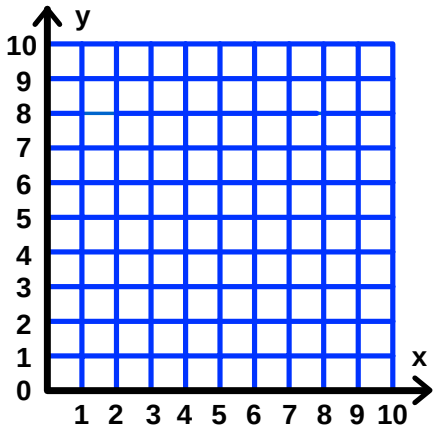


58. Graph a triangle with vertices below.
(1, 5), (1, 9), (3, 5).

Graph the triangle with the new vertices to show the transformations.

(4,5), (6,5), (6,9) _____

(6,5), (6,1), (8,1) _____

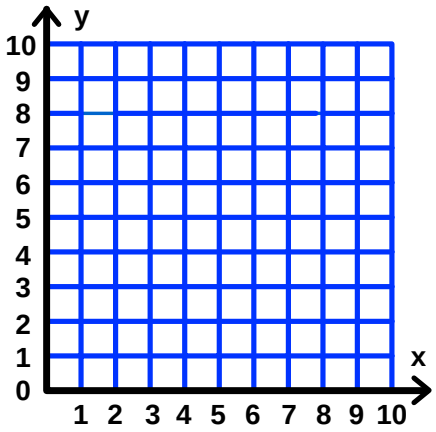


59. Graph a triangle with vertices below.
(2,1), (4,1), (2,3).

Graph the triangle with the new vertices to show the transformations.

(4,4), (6,4), (4,6) _____

(6,4), (8,4), (8,6) _____



Geometry: Skill 5-21C

Combining Transformations

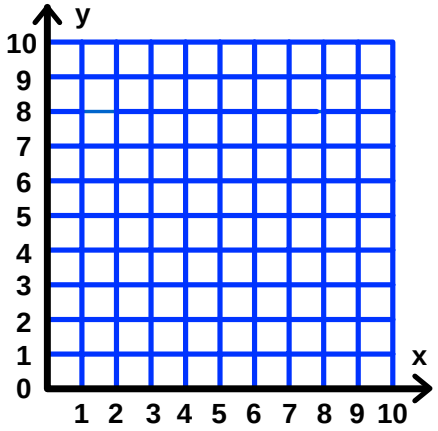
Directions: Write the combination of transformations.

60. Graph a triangle with the vertices below.
(1,3), (2,5), (3,3)

Graph the triangle with the new vertices to show the transformations and write translation, reflection or rotation.

(4,7), (5,9),(6,7), _____

(6,7), (6,5), (8,6) _____



61. Graph a triangle with vertices below.
(1,3), (3,3), (3,7)

Graph the triangle with the new vertices to show the transformations.

(4,3), (6,3), (4,7) _____

(8,6), (8,10), (10,6)
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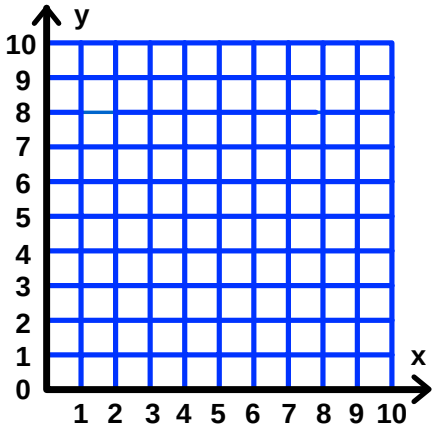
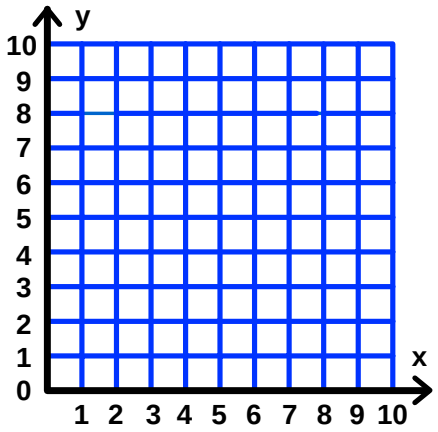


62. Graph a parallelogram with vertices below.
(2,9), (1,6), (4,6), (5,9)

Graph the parallelogram with the new vertices to show the transformations.

(5,9), (6,6), (9,6), (8,9) _____

(6,1), (5,4), (8,4), (9,1) _____

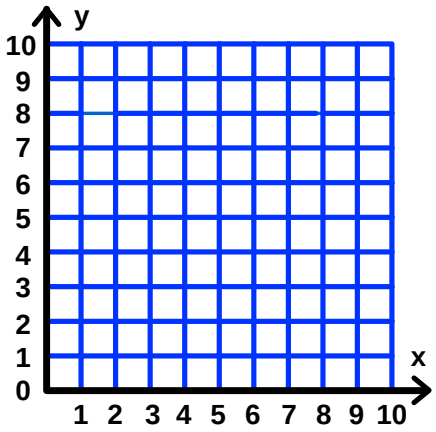


63. Graph a triangle with vertices below.
(1,1), (1,3), (5,3).

Graph the triangle with the new vertices to show the transformations.

(5,3), (5,7), (3,7) _____

(5,3), (5,7), (7,7) _____



Answer Key 5-21C

1. translation	2. reflection	3. rotation	4. reflection	5. translation
6. translation	7. translation	8. reflection	9. rotation	10. translation
11. rotation	12. reflection	13. rotation	14. reflection	15. translation
16. rotation	17. rotation	18. rotation	19. translation	20. rotation
21. translation	22. reflection	23. rotation	24. translation	
25. reflection	26. rotation	27. reflection	28. translation	

29. counterclockwise 90°	30. clockwise 180°	31. clockwise 270°
32. counterclockwise 90°	33. counterclockwise 180°	34. counterclockwise 270°
35. clockwise 180°	36. counterclockwise 90°	37. clockwise 180°
38. clockwise 90°	39. counterclockwise 90°	40. counterclockwise 270°
41. counterclockwise 180°	42. counterclockwise 180°	43. clockwise 90°
44. reflection, rotation	45. translation, rotation	46. rotation, translation
47. reflection, translation	48. rotation, translation	49. translation, reflection
50. translation, rotation	51. rotation, translation	52. rotation, reflection
53. translation, rotation	54. rotation, reflection	55. reflection, translation

Combining Transformations Answer Key 5-21C

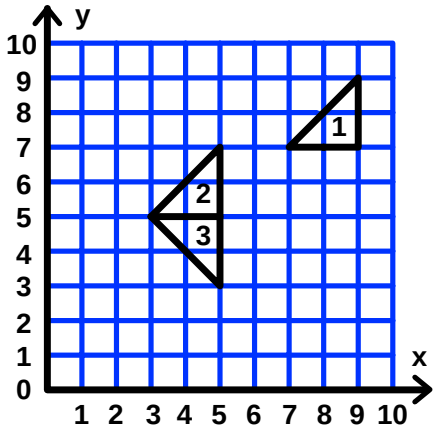
Directions: Write the combination of transformations.

56. Graph a triangle with the vertices below.
(9,7), (9,9), (7,7)

Graph the triangle with the new vertices to show the transformations and write translation, reflection or rotation.

(5,5), (5,7), (3,5) translation

(5,3), (5,5), (3,5) reflection

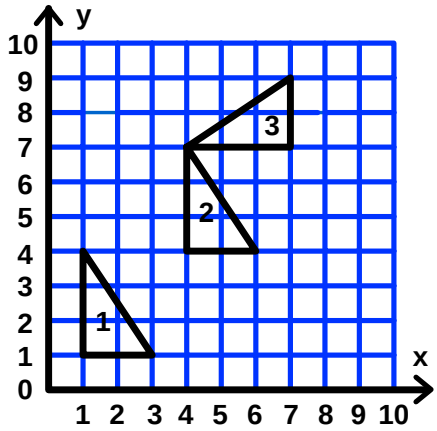


57. Graph a triangle with vertices below.
(1,1), (3,1), (1,4)

Graph the triangle with the new vertices to show the transformations.

(4,4), (6,4), (4,7) translation

(4,7), (7,7), (7,9) rotation

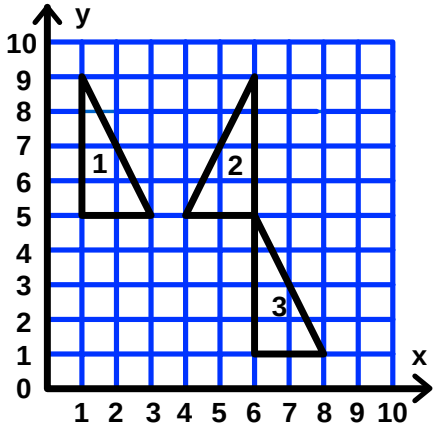


58. Graph a triangle with vertices below.
(1, 5), (1, 9), (3, 5).

Graph the triangle with the new vertices to show the transformations.

(4,5), (6,5), (6,9) reflection

(6,5), (6,1), (8,1) rotation

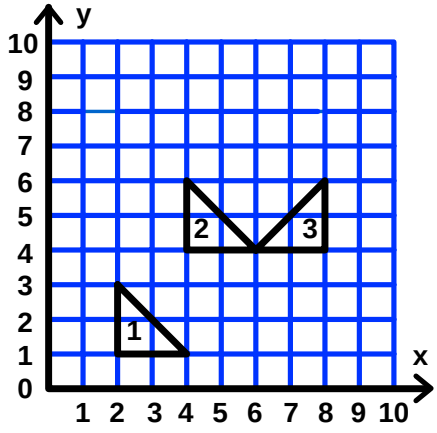


59. Graph a triangle with vertices below.
(2,1), (4,1), (2,3).

Graph the triangle with the new vertices to show the transformations.

(4,4), (6,4), (4,6) translation

(6,4) (8,4), (8,6) reflection



Skill 5-21C: Geometry

Combining Transformations Answer Key 5-21C

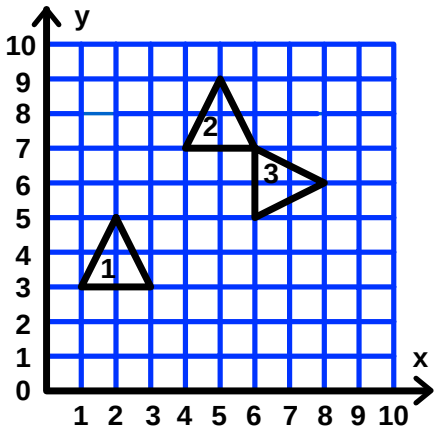
Directions: Write the combination of transformations.

60. Graph a triangle with the vertices below.
(1,3), (2,5), (3,3)

Graph the triangle with the new vertices to show the transformations and write translation, reflection or rotation.

(4,7), (5,9), (6,7) translation

(6,7), (6,5), (8,6)rotation

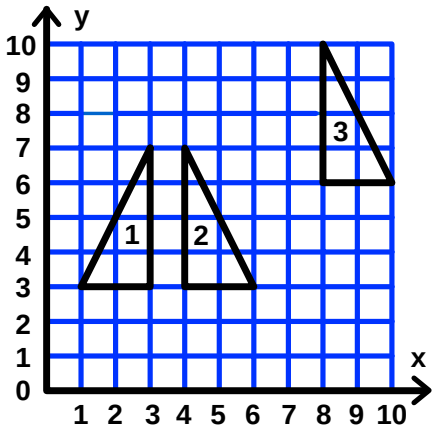


61. Graph a triangle with vertices below.
(1,3), (3,3), (3,7)

Graph the triangle with the new vertices to show the transformations.

(4,3), (6,3), (4,7) reflection

(8,6), (8,10), (10,6) translation

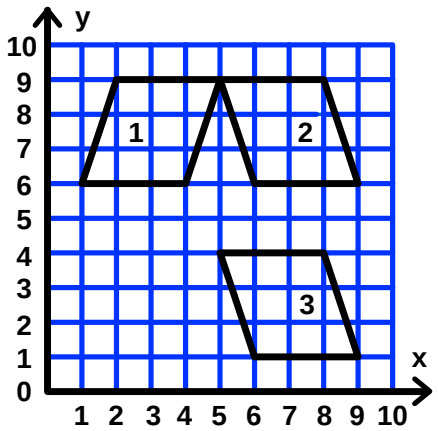


62. Graph a parallelogram with vertices below.
(2,9), (1,6), (4,6), (5,9)

Graph the parallelogram with the new vertices to show the transformations.

(5,9), (6,6), (9,6), (8,9) reflection

(6,1), (5,4), (8,4), (9,1) translation



63. Graph a triangle with vertices below.
(1,1), (1,3), (5,3).

Graph the triangle with the new vertices to show the transformations.

(5,3), (5,7), (3,7) rotation

(5,3), (5,7), (7,7) reflection