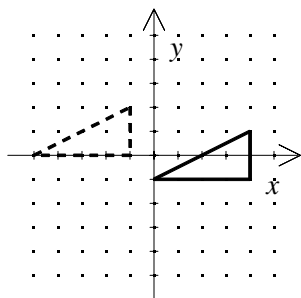


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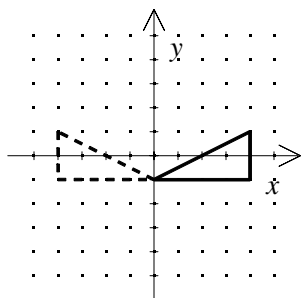
P.I. G.G.54: Define, investigate, justify, and apply isometries in the plane (translations)

1. Which graph represents a translation?

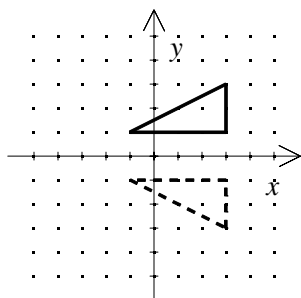
[A]



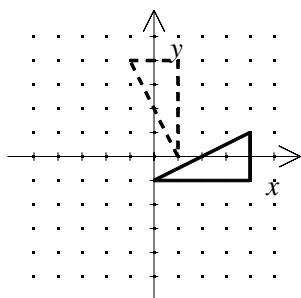
[B]



[C]



[D]



2. Describe the translation of point $P(-2, -9)$ to point $P'(-6, -3)$.

3. Write the translation of point $P(-8, 1)$ to point $P'(-10, -2)$.

[A] $(x, y) \rightarrow (x+3, y+2)$

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

[C] $(x, y) \rightarrow (x+2, y+3)$

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

4. Describe the translation of point $P(-2, 5)$ to point $P'(1, 7)$.

[A] $(x, y) \rightarrow (x+3, y+2)$

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

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

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

5. Write the translation of point $P(2, -4)$ to point $P'(-2, 1)$.

[A] $(x, y) \rightarrow (x-5, y+4)$

[B] $(x, y) \rightarrow (x+5, y-4)$

[C] $(x, y) \rightarrow (x-4, y+5)$

[D] $(x, y) \rightarrow (x+4, y-5)$

6. What is the translation image of $(2, -6)$ under the translation $(x, y) \rightarrow (x-2, y-3)$?

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7. Write the translation of point $P(9, 6)$ to point $P'(5, 1)$.
- [A] $(x, y) \rightarrow (x+4, y+5)$
[B] $(x, y) \rightarrow (x-4, y-5)$
[C] $(x, y) \rightarrow (x-5, y-4)$
[D] $(x, y) \rightarrow (x+5, y+4)$
8. Describe the translation of point $P(5, -3)$ to point $P'(0, -9)$.
9. Describe the translation of point $P(-9, -4)$ to point $P'(-5, -6)$.
10. Write the translation of point $P(7, -5)$ to point $P'(9, -2)$.
- [A] $(x, y) \rightarrow (x+2, y+3)$
[B] $(x, y) \rightarrow (x-2, y-3)$
[C] $(x, y) \rightarrow (x-3, y-2)$
[D] $(x, y) \rightarrow (x+3, y+2)$
11. Describe the translation of point $P(2, 7)$ to point $P'(7, 9)$.
- [A] $(x, y) \rightarrow (x-5, y+2)$
[B] $(x, y) \rightarrow (x+5, y+2)$
[C] $(x, y) \rightarrow (x-5, y-2)$
[D] $(x, y) \rightarrow (x+5, y-2)$
12. Describe the translation of point $P(6, 3)$ to point $P'(10, 9)$.
- [A] $(x, y) \rightarrow (x+4, y+6)$
[B] $(x, y) \rightarrow (x-4, y-6)$
[C] $(x, y) \rightarrow (x+4, y-6)$
[D] $(x, y) \rightarrow (x-4, y+6)$
13. Write the translation of point $P(-4, 3)$ to point $P'(-6, 0)$.
- [A] $(x, y) \rightarrow (x+2, y+3)$
[B] $(x, y) \rightarrow (x+3, y+2)$
[C] $(x, y) \rightarrow (x-3, y-2)$
[D] $(x, y) \rightarrow (x-2, y-3)$
14. What is the translation image of $(-3, 3)$ under the translation $(x, y) \rightarrow (x+2, y+3)$?
15. Describe the translation of point $P(2, -7)$ to point $P'(-1, -1)$.
16. Write the translation of point $P(3, -4)$ to point $P'(7, 1)$.
- [A] $(x, y) \rightarrow (x+4, y+5)$
[B] $(x, y) \rightarrow (x-5, y-4)$
[C] $(x, y) \rightarrow (x+5, y+4)$
[D] $(x, y) \rightarrow (x-4, y-5)$

[1] A

[2] $(x, y) \rightarrow (x - 4, y + 6)$

[3] B

[4] A

[5] C

[6] $(0, -9)$

[7] B

[8] $(x, y) \rightarrow (x - 5, y - 6)$

[9] $(x, y) \rightarrow (x + 4, y - 2)$

[10] A

[11] B

[12] A

[13] D

[14] $(-1, 6)$

[15] $(x, y) \rightarrow (x - 3, y + 6)$

[16] A