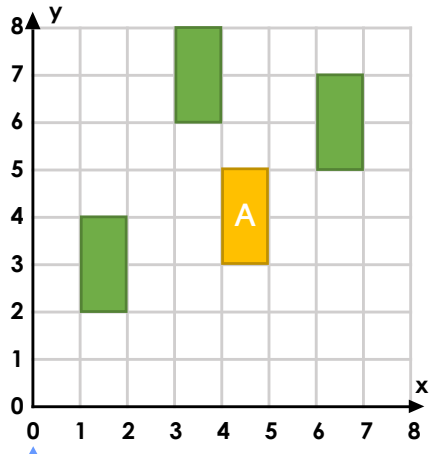
Translation with Coordinates

4a. Shape A is translated to three new places on the grid. Which set of coordinates does not match a translation?



A. (3, 8) (4, 8) (3, 6) (4, 6)

B. (6, 7) (7, 7) (6, 5) (7, 5)

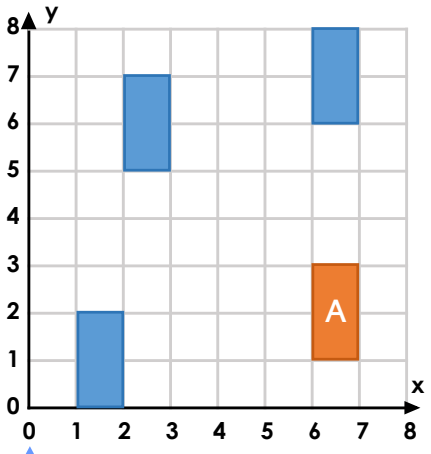
C. (6, 3) (7, 3) (6, 1) (7, 1)

D. (1, 4) (2, 4) (1, 2) (2, 2)

E

5 PS

4b. Shape A is translated to three new places on the grid. Which set of coordinates does not match a translation?



A. (2, 7) (3, 7) (2, 5) (3, 5)

B. (3, 4) (4, 4) (3, 2) (4, 2)

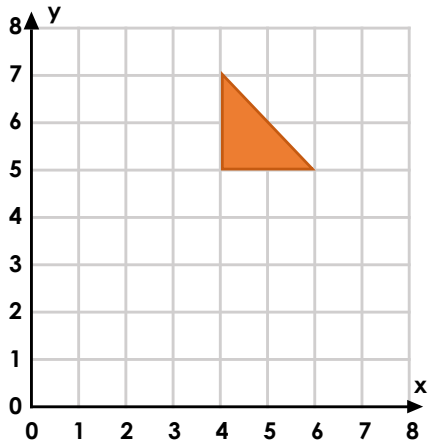
C. (6, 8) (7, 8) (6, 6) (7, 6)

D. (1, 2) (2, 2) (1, 0) (2, 0)

E

5 PS

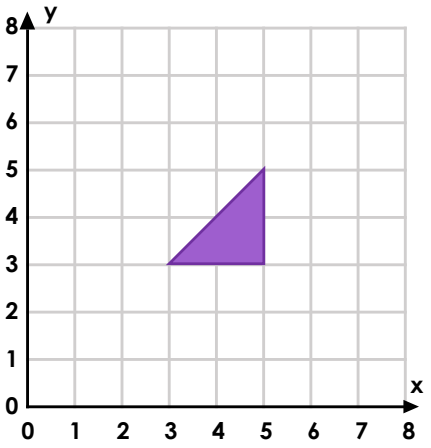
5a. Jake must translate this shape 1 unit then 4 units, but he can't remember the directions. What could the coordinates of the translated shape be?



E

5 PS

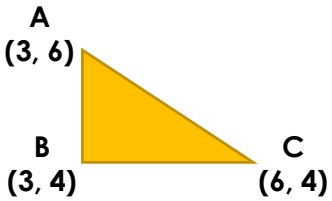
5b. Lorelai must translate this shape 3 units then 2 units, but she can't remember the directions. What could the coordinates of the translated shape be?



E

5 PS

6a. Uma and Ricky are translating this shape 3 units left and 3 units down.

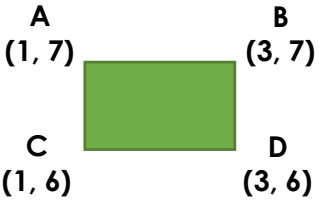


Uma thinks the translated coordinates of vertex A will be (0, 3).
Ricky thinks the translated coordinates of vertex C will be (1, 3).
Who is correct? Explain how you know.

E

5 R

6b. Miles and Skye are translating this shape 4 units right and 5 units down.



Miles thinks the translated coordinates of vertex B will be (7, 2).
Skye thinks the translated coordinates of vertex D will be (5, 1).
Who is correct? Explain how you know.

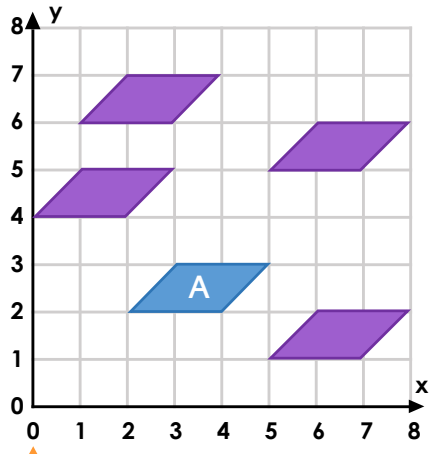
E

5 R

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Translation with Coordinates

7a. Shape A is translated to three new places on the grid. Which set of coordinates does not match a translation?



A. (1, 5) (3, 5) (0, 4) (2, 4)

B. (2, 7) (4, 7) (1, 6) (3, 6)

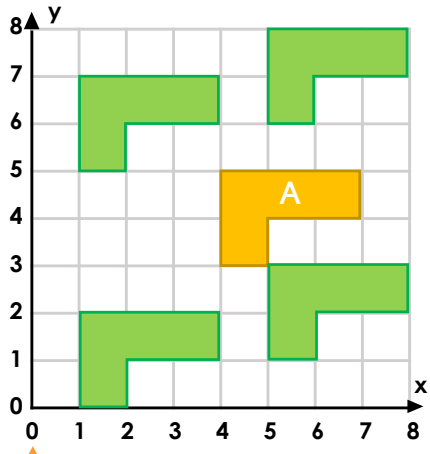
C. (6, 6) (8, 6) (5, 5) (7, 5)

D. (5, 2) (7, 2) (6, 1) (8, 1)

GD

5 PS

7b. Shape A is translated to three new places on the grid. Which set of coordinates does not match a translation?



A. (1, 7) (4, 7) (1, 5) (2, 5) (2, 6) (4, 6)

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

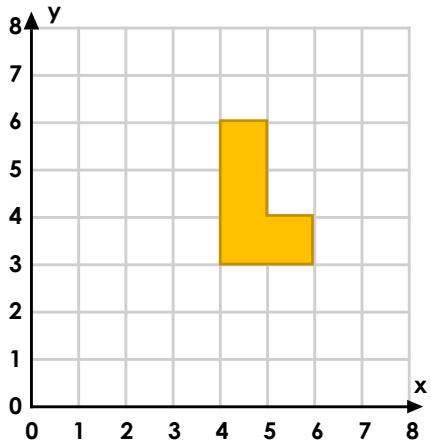
C. (1, 2) (4, 2) (1,0) (2, 0) (2, 1) (4, 1)

D. (5, 3) (6, 3) (6, 2) (5, 1) (8, 1) (8, 2)

GD

5 PS

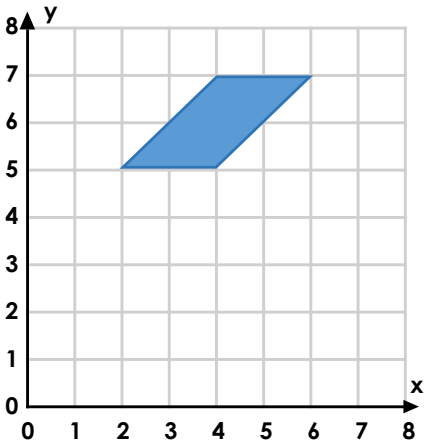
8a. Finley must translate a shape 2 units then 1 unit, but he can't remember the directions. What could the coordinates of the translated shape be?



GD

5 PS

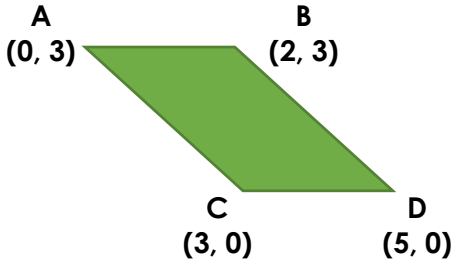
8b. Kai must translate a shape 1 unit then 2 units, but he can't remember the directions. What could the coordinates of the translated shape be?



GD

5 PS

9a. Leah and Charles are translating this shape 3 units right and 4 units up.

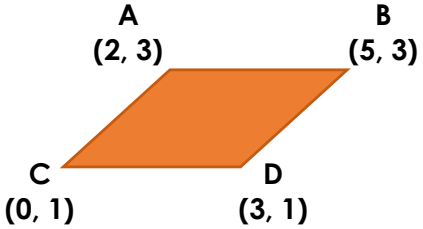


Leah thinks the translated coordinates of vertex D will be (8, 4).
Charles thinks the translated coordinates of vertex C will be (4, 6).
Who is correct? Explain how you know.

GD

5 R

9b. Henrietta and Ying are translating this shape 2 units right and 5 units up.



Henrietta thinks the translated coordinates of vertex B will be (2, 6).
Ying thinks the translated coordinates of vertex D will be (6, 6).
Who is correct? Explain how you know.

GD

5 R

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Reasoning and Problem Solving
Translation with Coordinates

Developing

1a. B

2a. 2 units right and 3 units up: (5, 6)
2 units right and 3 units down: (5, 0)
2 units left and 3 units up: (1, 6)
2 units left and 3 units down: (1, 0)

3a. Max is correct because the point moves 4 units left (-4) and 3 units down (-3). The new coordinates are (4, 5).

Expected

4a. C

5a. 1 unit right and 4 units up: won't fit
1 unit right and 4 units down: (5, 3) (5, 1) (7, 1)
1 unit left and 4 units up: won't fit
1 unit left and 4 units down: (3, 3) (3, 1) (5, 1)

6a. Uma is correct because vertex A moves 3 units left (-3) and 3 units down (-3). The new coordinates are (0, 3).

Greater Depth

7a. D

8a. 2 units right and 1 unit up: (6, 7) (7, 7) (6, 4) (8, 4) (8, 5) (7, 5)
2 units right and 1 unit down: (6, 5) (7, 5) (6, 2) (8, 2) (8, 3) (7, 3)
2 units left and 1 unit up: (2, 7) (3, 7) (2, 4) (4, 4) (4, 5) (3, 5)
2 units left and 1 unit down: (2, 5) (3, 5) (2, 2) (4, 2) (4, 3) (3, 3)

9a. Leah is correct because vertex D moves 3 units right (+3) and 4 units up (+4). The new coordinates are (8, 4).

Reasoning and Problem Solving
Translation with Coordinates

Developing

1b. D

2b. 3 units right and 1 unit up: (8, 5)
3 units right and 1 unit down: (8, 3)
3 units left and 1 unit up: (2, 5)
3 units left and 1 unit down: (2, 3)

3b. Troy is correct because the point moves 5 units left (-5) and 4 units up (+4). The new coordinates are (1, 6).

Expected

4b. B

5b. 3 units right and 2 units up: (8, 7) (6, 5) (8, 5)
3 units right and 2 units down: (8, 3) (6, 1) (8, 1)
3 units left and 2 units up: (2, 7) (0, 5) (2, 5)
3 units left and 2 units down: (2, 3) (0, 1) (2, 1)

6b. Miles is correct because vertex B moves 4 units right (+4) and 5 units down (-5). The new coordinates are (7, 2).

Greater Depth

7b. D

8b. 1 unit right and 2 units up: won't fit
1 unit right and 2 units down: (5, 5) (7, 5) (3, 3) (5, 3)
1 unit left and 2 units up: won't fit
1 unit left and 2 units down: (3, 5) (5, 5) (1, 3) (3, 3)

9b. Neither are correct because vertex B moves 2 units right (+2) and 5 units up (+5). The new coordinates are (7, 8). The new coordinates of vertex D are (5, 6).

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