Homework
Translation with Coordinates

National Curriculum Objectives:

Mathematics Year 5: (5P2) Identify, describe and represent the position of a shape following a refection or translation, using the appropriate language, and know that the shape has not changed

Differentiation:

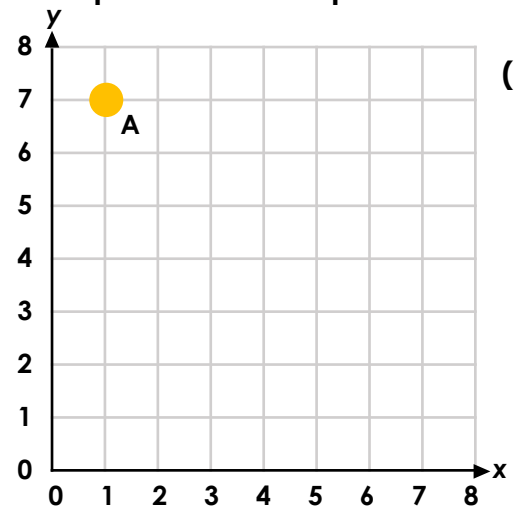
Questions 1, 4 and 7 (Varied Fluency)
Developing Draw translated points in new positions from given instructions and write the new coordinates when translating points using coordinates.
Expected Draw translated shapes in new positions from given instructions and write the new coordinates when translating regular polygons using coordinates.
Greater Depth Draw translated shapes in new positions from given instructions and write the new coordinates when translating irregular shapes and compound rectilinear shapes using coordinates.

Questions 2, 5 and 8 (Varied Fluency)
Developing Match translated points to given instruction when translating points using coordinates.
Expected Match translated shapes to given instructions when translating regular polygons using coordinates.
Greater Depth Match translated shapes to given instructions when translating irregular shapes and compound rectilinear shapes using coordinates.

Questions 3, 6 and 9 (Reasoning and Problem Solving)
Developing Decide if a statement is correct when translating points using coordinates, and write down possible correct answers.
Expected Decide if a statement is correct when translating regular polygons using coordinates, and write down possible correct answers.
Greater Depth Decide if a statement is correct when translating irregular shapes and compound rectilinear shapes using coordinates, and write down possible correct answers.

Translation with Coordinates

1. Each point below needs to be translated 4 squares to the right and 3 squares down. Draw the point in its new position and write its new coordinates.



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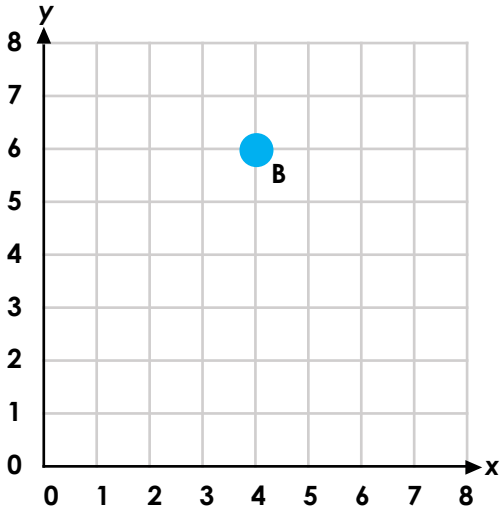

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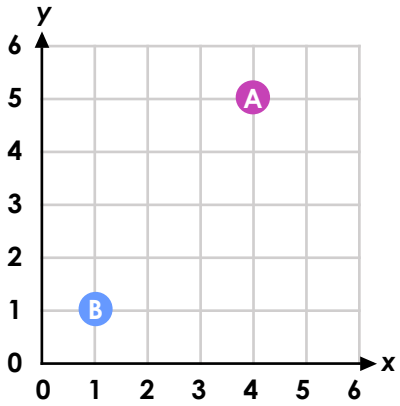
D

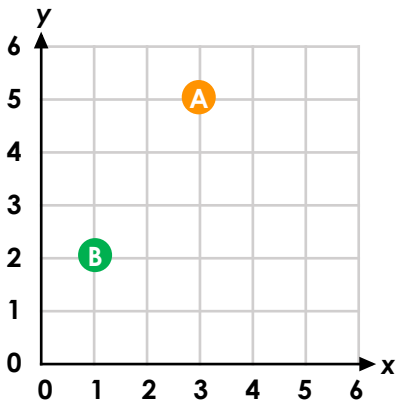
VF
HW/Ext

2. Look at the translations of point A to point B on each quadrant below. Match the given translations to the correct quadrants.

A.



B.



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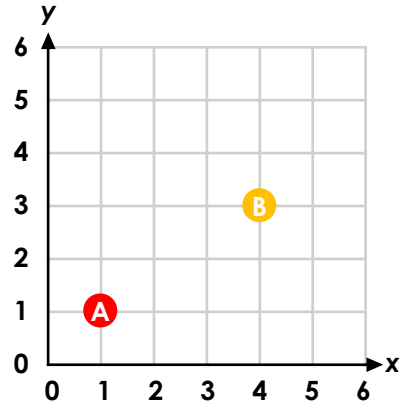


3 squares right, 2 squares up

4 squares down, 3 squares left

2 squares left, 3 squares down

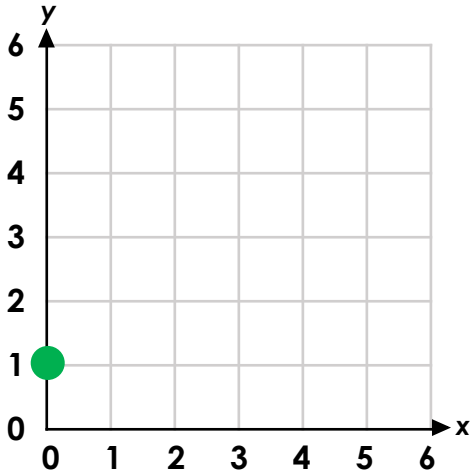
D

VF
HW/Ext

3. Chuan is translating point A. He moves the point 5 squares one way then 3 squares another way.

Chuan

The coordinates of the translated point will be (3, 6).



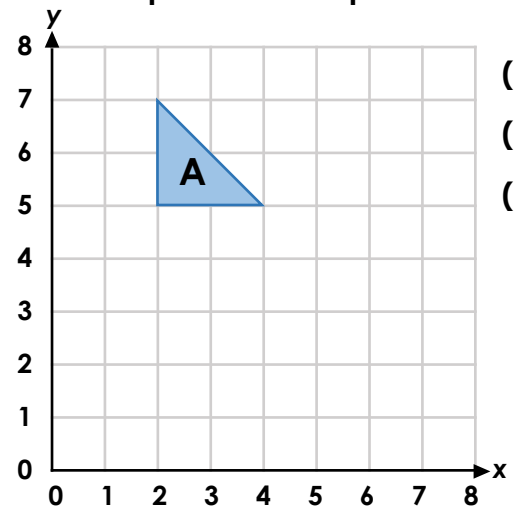
Is he correct?
Are there any other possibilities?

D

RPS
HW/Ext

Translation with Coordinates

4. Each shape below needs to be translated 4 squares to the right and 3 squares down. Draw the shape in its new position and write its new coordinates.



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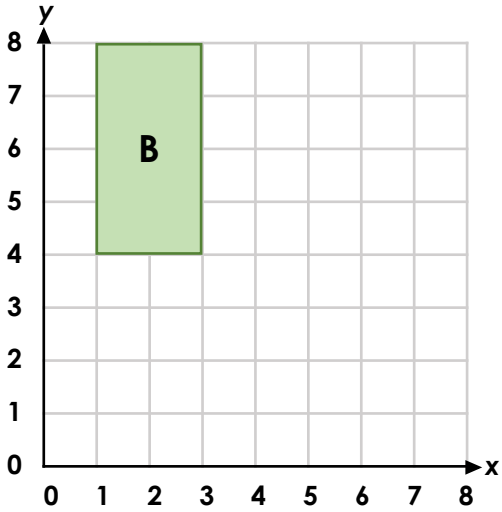

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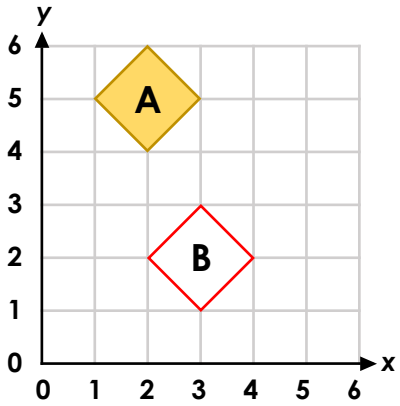
E

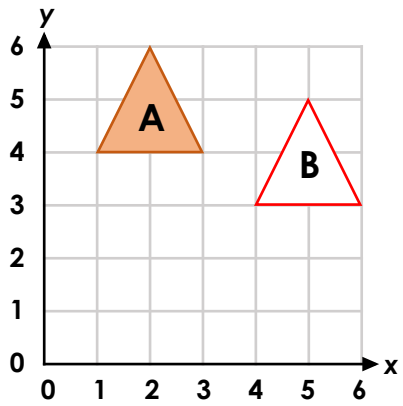
VF
HW/Ext

5. Look at the translations of shape A to shape B on each quadrant below. Match the given translations to the correct quadrants.

A.



B.



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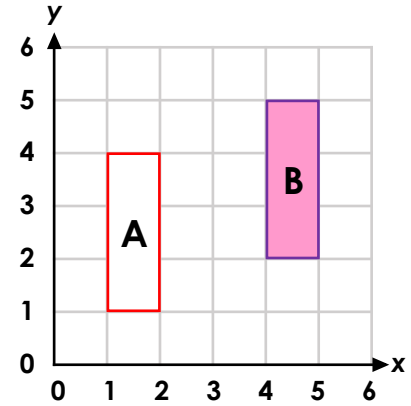


3 squares right, 1 square up

3 squares down, 1 square right

3 squares right, 1 square down

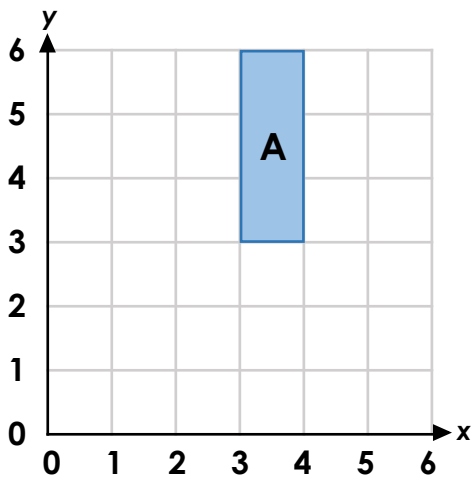
E

VF
HW/Ext

6. Steph is translating shape A. She moves the shape 3 squares one way then 2 squares another way.

Steph

The coordinates of the translated shape will be (0,4), (1,4), (0,1), (1,1).



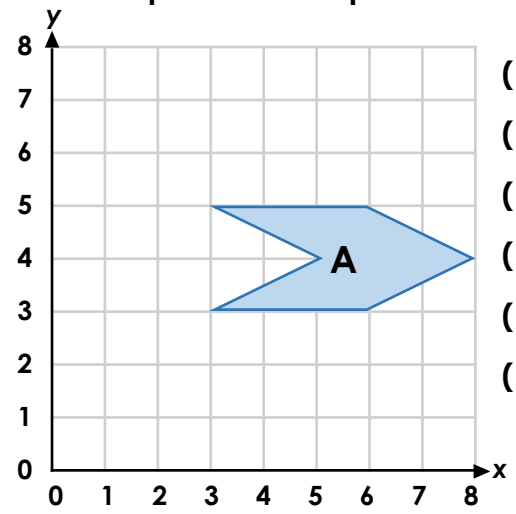
Is she correct?
Are there any other possibilities?

E

RPS
HW/Ext

Translation with Coordinates

7. Each shape below needs to be translated 3 squares to the left and 3 squares up. Draw the shape in its new position and write its new coordinates.



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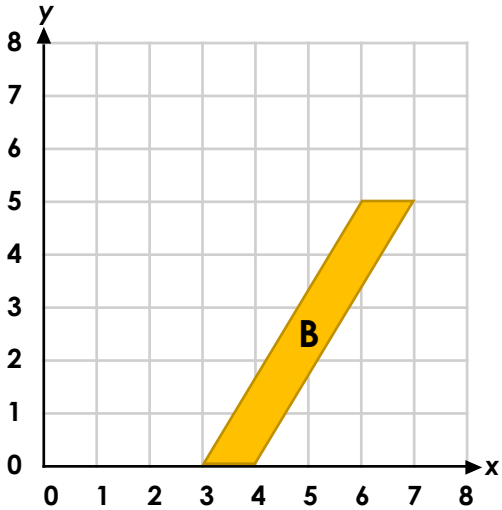

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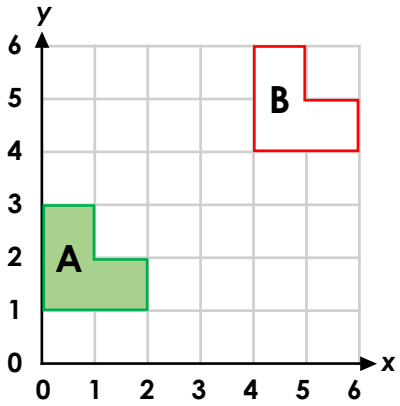
GD

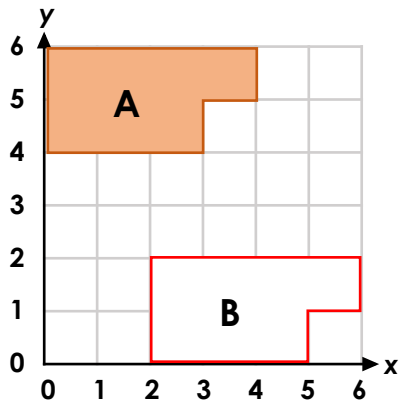
VF
HW/Ext

8. Look at the translations of shape A to shape B on each quadrant below. Match the given translations to the correct quadrants.

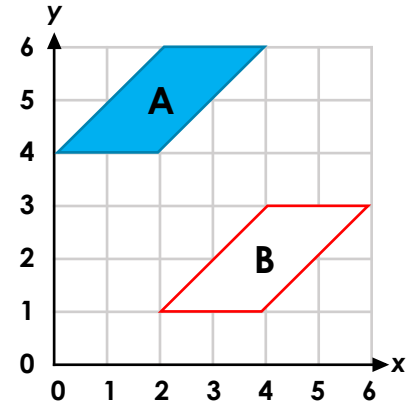
A.



B.



C.



2 squares right, 3 squares down

3 squares up, 4 squares right

4 squares down, 2 squares right

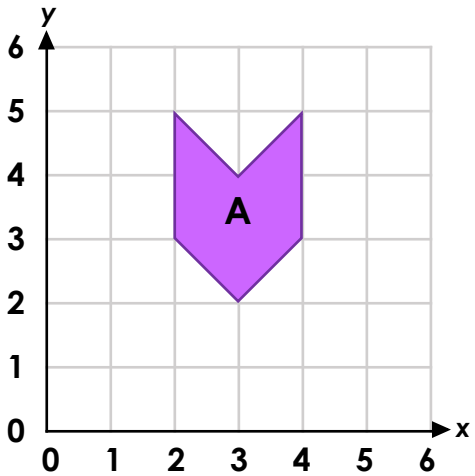
GD

VF
HW/Ext

9. Hafsa is translating shape A. She moves the shape 2 squares one way then 1 square another way.

Hafsa

The coordinates of the translated shape will be (1, 3), (0, 4), (0, 6), (1, 5), (2, 6) and (2, 4).



Is she correct?
Are there any other possibilities?

GD

RPS
HW/Ext

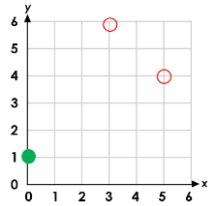
Homework
Translation with Coordinates

Developing

1. Point A: (5, 4); Point B: (8, 3)

2. A is 4 squares down, 3 squares left; B is 2 squares left, 3 squares down; C is 3 squares right, 2 squares up.

3. He is correct. Other possibilities include: (5, 4)

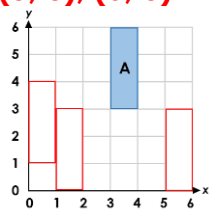


Expected

4. Shape A: (6, 4), (8, 2), (6, 2); Shape B: (5, 5), (7, 5), (7, 1), (5, 1)

5. A is 3 squares down, 1 square right; B is 3 squares right, 1 square down; C is 3 squares right, 1 square up.

6. She is correct. Other possibilities include: (1, 3), (2, 3), (1, 0), (2, 0) and (5, 3), (6, 3), (5, 0), (6, 0)



Greater Depth

7. Shape A: (0, 8), (3, 8), (5, 7), (3, 6), (0, 6), (2, 7); Shape B: (0, 3), (3, 8), (4, 8), (1, 3)

8. A is 3 squares up, 4 squares right; B is 4 squares down, 2 squares right; C is 2 squares right, 3 squares down.

9. She is correct. Other possibilities include: (5, 3), (4, 4), (4, 6), (5, 5), (6, 6) and (6, 4);
(5, 1), (4, 2), (4, 4), (5, 3), (6, 4) and (6, 2);
(4, 0), (3, 1), (3, 3), (4, 2), (5, 3) and (5, 1);
(2, 0), (1, 1), (1, 3), (2, 2), (3, 3) and (3, 1);
(1, 1), (0, 2), (0, 4), (1, 3), (2, 4) and (2, 2);
(1, 3), (0, 4), (0, 6), (1, 5), (2, 6) and (2, 4)