Varied Fluency
Step 3: Reflection with Coordinates

National Curriculum Objectives:

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

Differentiation:

Developing Questions to support reflection of points, quadrilaterals and triangles with coordinates. Polygons with up to 4 sides.
Expected Questions to support reflection of points, quadrilaterals and triangles with coordinates. Polygons with up to 6 sides.
Greater Depth Questions to support reflection of points, quadrilaterals and triangles with coordinates. Polygons with up to 8 sides.

More Year 5 Position and Direction resources.

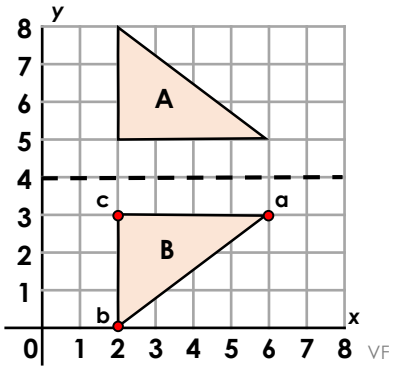
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Reflection with Coordinates

1a. Shape A has been reflected. Fill in the missing coordinate for Shape B.

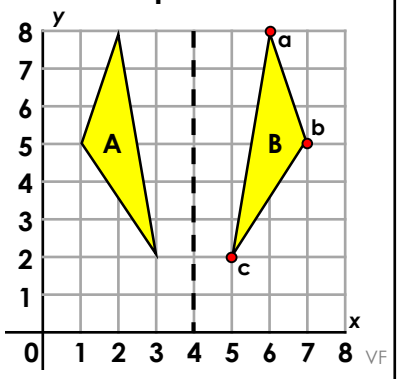
Point	Shape B
a	(6, 3)
b	(2, 0)
c	(,)



D

1b. Shape A has been reflected. Fill in the missing coordinates for Shape B.

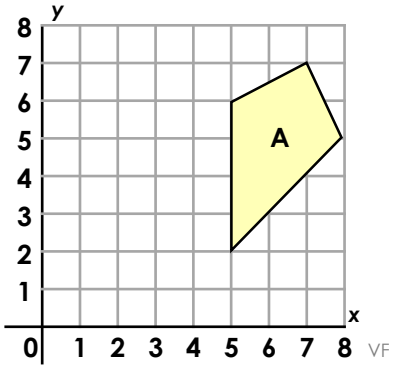
Point	Shape B
a	(6, 8)
b	(,)
c	(,)



D

2a. Draw a line of symmetry so that the below coordinates show a reflection of Shape A:

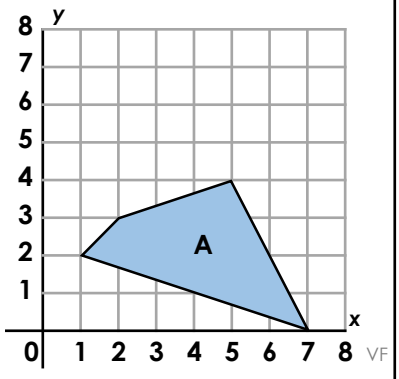
(3, 6)
(3, 2)
(0, 5)
(1, 7)



D

2b. Draw a line of symmetry so that the below coordinates show a reflection of Shape A:

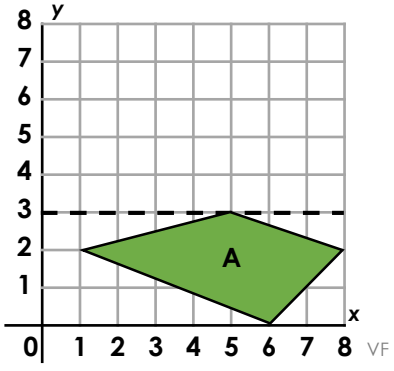
(5, 4)
(7, 8)
(1, 6)
(2, 5)



D

3a. Circle the correct set of coordinates if Shape A is reflected.

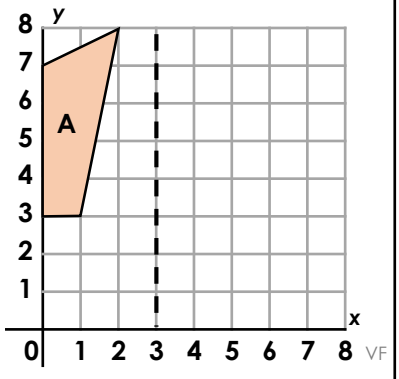
Set A	Set B
(5, 3)	(5, 3)
(8, 4)	(8, 4)
(6, 6)	(6, 6)
(4, 1)	(1, 4)



D

3b. Circle the correct set of coordinates if Shape A is reflected.

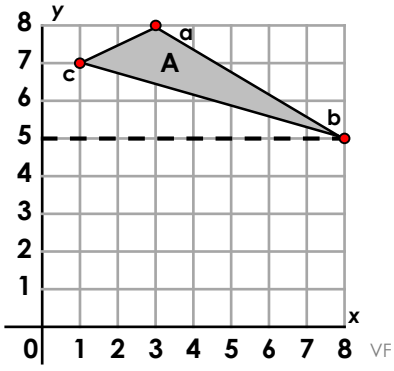
Set A	Set B
(4, 8)	(4, 8)
(5, 3)	(5, 3)
(6, 3)	(6, 3)
(6, 7)	(7, 6)



D

4a. Reflect Shape A to create Shape B. Write the coordinates for both shapes.

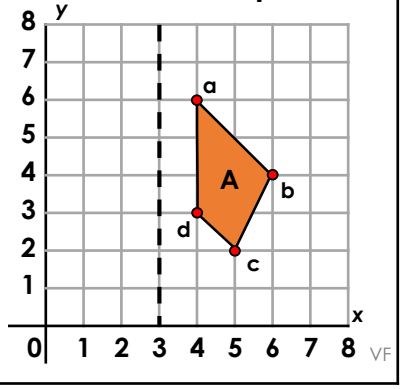
Point	Shape A	Shape B
a	(,)	(,)
b	(,)	(,)
c	(,)	(,)



D

4b. Reflect Shape A to create Shape B. Write the coordinates for both shapes.

Point	Shape A	Shape B
a	(,)	(,)
b	(,)	(,)
c	(,)	(,)
d	(,)	(,)



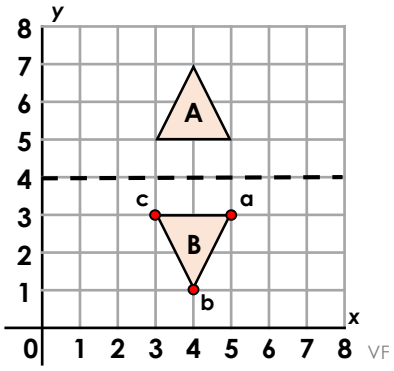
D

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Reflection with Coordinates

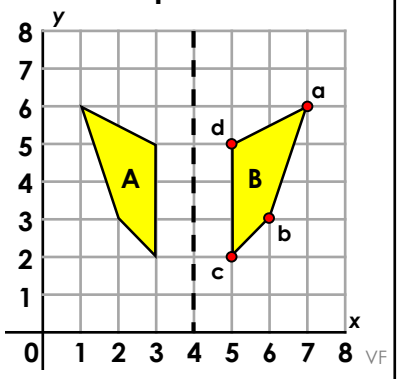
5a. Shape A has been reflected. Fill in the missing coordinates for Shape B.

Point	Shape B
a	(5, 3)
b	(,)
c	(,)



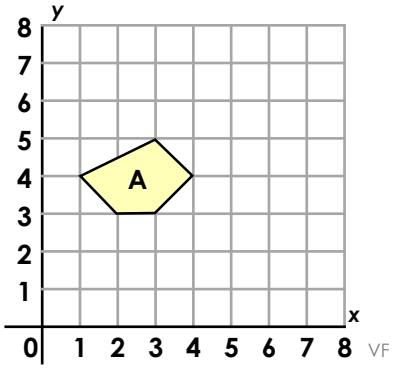
5b. Shape A has been reflected. Fill in the missing coordinates for Shape B.

Point	Shape B
a	(7, 6)
b	(,)
c	(,)
d	(,)



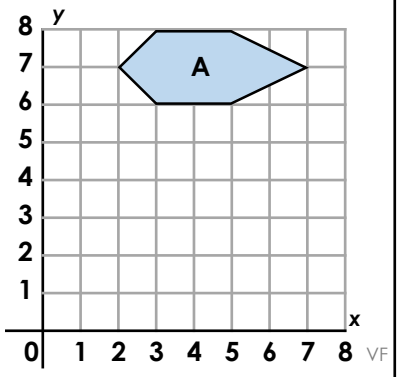
6a. Draw a line of symmetry so that the below coordinates show a reflection of Shape A:

(4, 4)
(5, 5)
(7, 4)
(6, 3)
(5, 3)



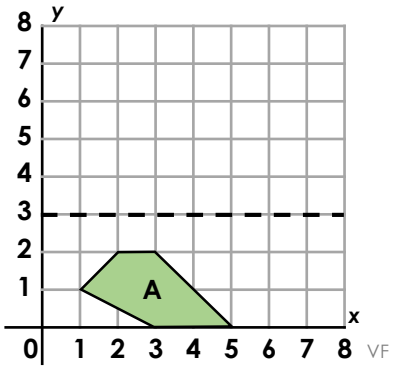
6b. Draw a line of symmetry so that the below coordinates show a reflection of Shape A:

(3, 2)
(2, 1)
(3, 0)
(5, 0)
(7, 1)
(5, 2)



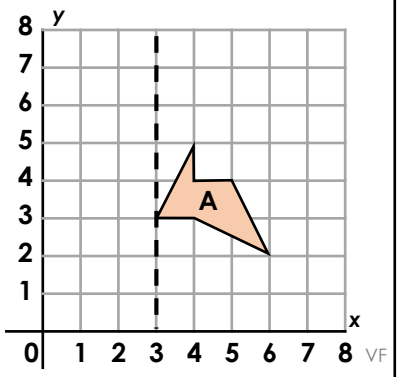
7a. Circle the correct set of coordinates if Shape A is reflected.

Set A	Set B
(2, 4)	(2, 4)
(3, 4)	(3, 4)
(5, 6)	(5, 6)
(3, 6)	(3, 6)
(1, 6)	(1, 5)



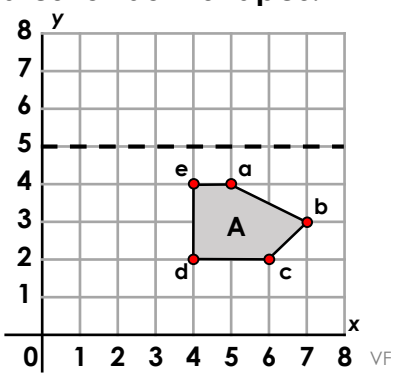
7b. Circle the correct set of coordinates if Shape A is reflected.

Set A	Set B
(3, 3)	(3, 3)
(2, 3)	(2, 3)
(0, 2)	(0, 2)
(1, 4)	(1, 4)
(2, 4)	(2, 4)
(2, 5)	(2, 4)



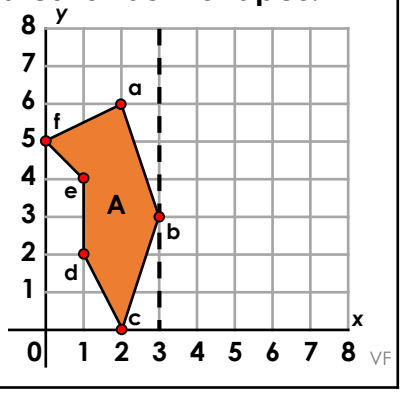
8a. Reflect Shape A to create Shape B. Write the coordinates for both shapes.

Point	Shape A	Shape B
a	(,)	(,)
b	(,)	(,)
c	(,)	(,)
d	(,)	(,)
e	(,)	(,)



8b. Reflect Shape A to create Shape B. Write the coordinates for both shapes.

Point	Shape A	Shape B
a	(,)	(,)
b	(,)	(,)
c	(,)	(,)
d	(,)	(,)
e	(,)	(,)
f	(,)	(,)

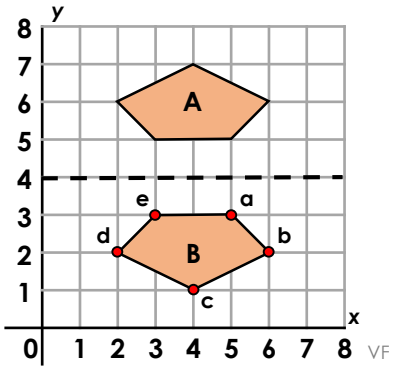


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Reflection with Coordinates

9a. Shape A has been reflected. Fill in the missing coordinates for Shape B.

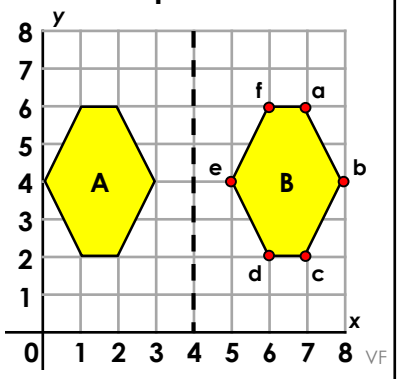
Point	Shape b
a	(5, 3)
b	(6, 2)
c	(4, 1)
d	(,)
e	(,)



GD

9b. Shape A has been reflected. Fill in the missing coordinates for Shape B.

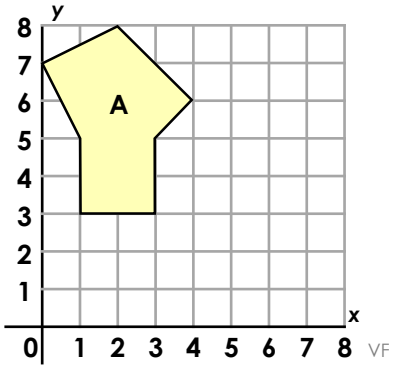
Point	Shape b
a	(7, 6)
b	(8, 4)
c	(,)
d	(,)
e	(,)
f	(,)



GD

10a. Draw a line of symmetry so that the below coordinates show a reflection of Shape A:

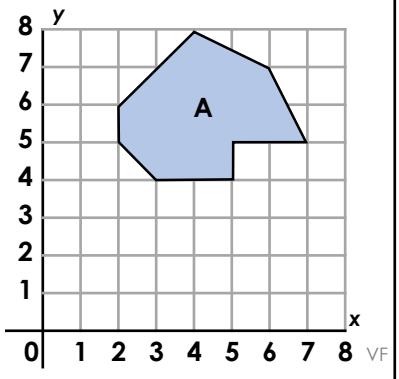
(6, 8)
(4, 6)
(5, 5)
(5, 3)
(7, 3)
(7, 5)
(8, 7)



GD

10b. Draw a line of symmetry so that the below coordinates show a reflection of Shape A:

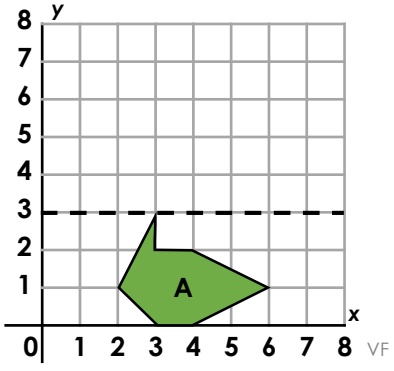
(4, 0)
(6, 1)
(7, 3)
(5, 3)
(5, 4)
(3, 4)
(2, 3)
(2, 2)



GD

11a. Circle the correct set of coordinates if Shape A is reflected.

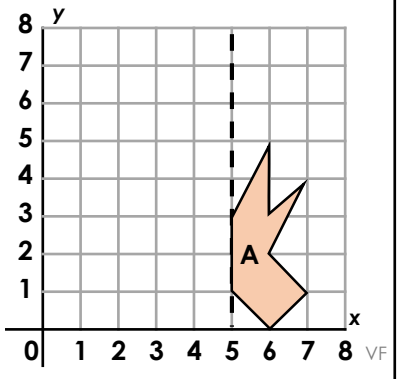
Set A	Set B
(3, 3)	(3, 3)
(2, 5)	(2, 5)
(3, 6)	(3, 6)
(4, 6)	(4, 6)
(6, 6)	(6, 5)
(4, 4)	(4, 4)
(3, 4)	(3, 4)



GD

11b. Circle the correct set of coordinates if Shape A is reflected.

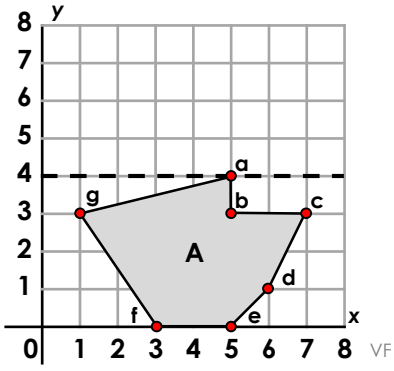
Set A	Set B
(4, 5)	(4, 5)
(5, 3)	(5, 3)
(5, 1)	(5, 1)
(4, 0)	(4, 0)
(3, 1)	(3, 1)
(4, 2)	(4, 2)
(3, 4)	(3, 4)
(4, 4)	(4, 3)



GD

12a. Reflect Shape A to create Shape B. Write the coordinates for both shapes.

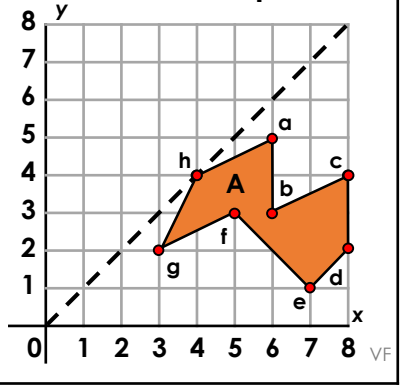
Point	Shape A	Shape B
a	(,)	(,)
b	(,)	(,)
c	(,)	(,)
d	(,)	(,)
e	(,)	(,)
f	(,)	(,)
g	(,)	(,)



GD

12b. Reflect Shape A to create Shape B. Write the coordinates for both shapes.

Point	Shape A	Shape B
a	(,)	(,)
b	(,)	(,)
c	(,)	(,)
d	(,)	(,)
e	(,)	(,)
f	(,)	(,)
g	(,)	(,)
h	(,)	(,)



GD

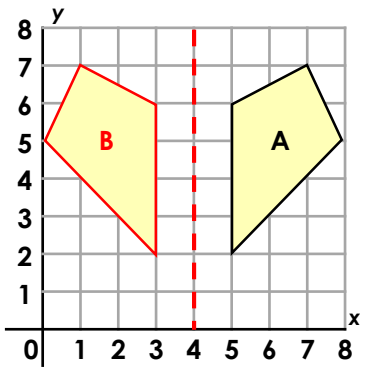
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Varied Fluency
Reflection with Coordinates

Developing

1a. c = (2, 3)

2a.



3a. Set B

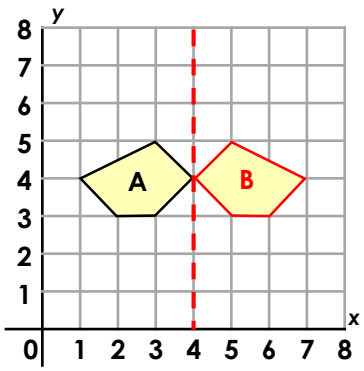
4a.

Point	Shape A	Shape B
a	(3, 8)	(3, 2)
b	(8, 5)	(8, 5)
c	(1, 7)	(1, 3)

Expected

5a. b = (4, 1), c = (3, 3)

6a.



7a. Set B

8a.

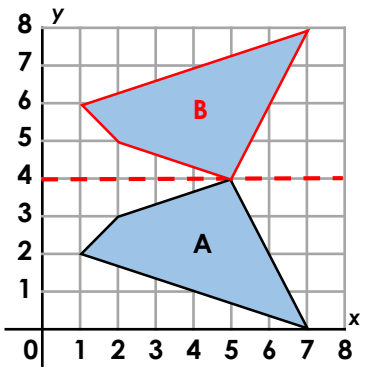
Point	Shape A	Shape B
a	(5, 4)	(5, 6)
b	(7, 3)	(7, 7)
c	(6, 2)	(6, 8)
d	(4, 2)	(4, 8)
e	(4, 4)	(4, 6)

Varied Fluency
Reflection with Coordinates

Developing

1b. b = (7, 5), c = (5, 2)

2b.



3b. Set A

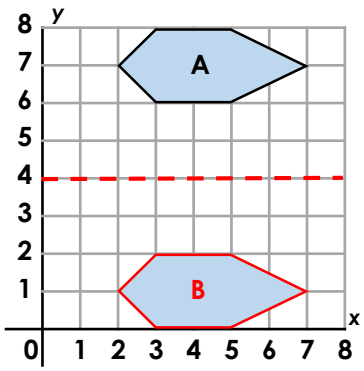
4b.

Point	Shape A	Shape B
a	(4, 6)	(2, 6)
b	(6, 4)	(0, 4)
c	(5, 2)	(1, 2)
d	(4, 3)	(2, 3)

Expected

5b. b = (6, 3), c = (5, 2), d = (5, 5)

6b.



7b. Set A

8b.

Point	Shape A	Shape B
a	(2, 6)	(4, 6)
b	(3, 3)	(3, 3)
c	(2, 0)	(4, 0)
d	(1, 2)	(5, 2)
e	(1, 4)	(5, 4)
f	(0, 5)	(6, 5)

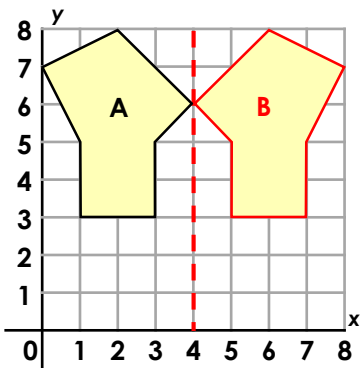
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Varied Fluency
Reflection with Coordinates

Greater Depth

9a. d = (2, 2), e = (3, 3)

10a.



11a. Set B

12a.

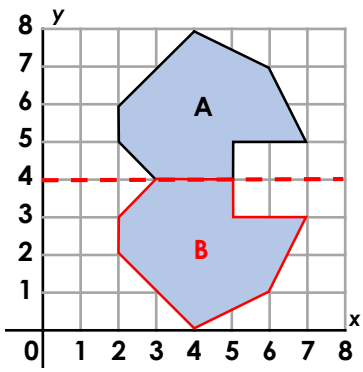
Point	Shape A	Shape B
a	(5, 4)	(5, 4)
b	(5, 3)	(5, 5)
c	(7, 3)	(7, 5)
d	(6, 1)	(6, 7)
e	(5, 0)	(5, 8)
f	(3, 0)	(3, 8)
g	(1, 3)	(1, 5)

Varied Fluency
Reflection with Coordinates

Greater Depth

9b. c = (7, 2), d = (6, 2), e = (5, 4), f = (6, 6)

10b.



11b. Set B

12b.

Point	Shape A	Shape B
a	(6, 5)	(5, 6)
b	(6, 3)	(3, 6)
c	(8, 4)	(4, 8)
d	(8, 2)	(2, 8)
e	(7, 1)	(1, 7)
f	(5, 3)	(3, 5)
g	(3, 2)	(2, 3)
h	(4, 4)	(4, 4)

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