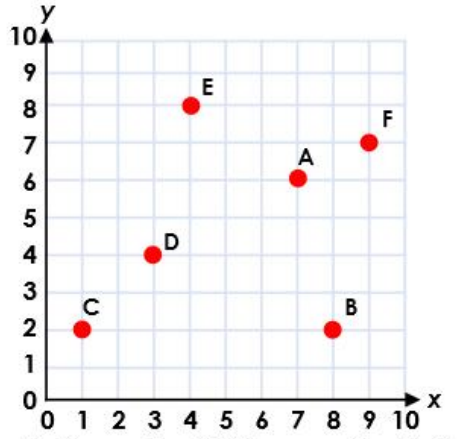
Maths
Activity 1

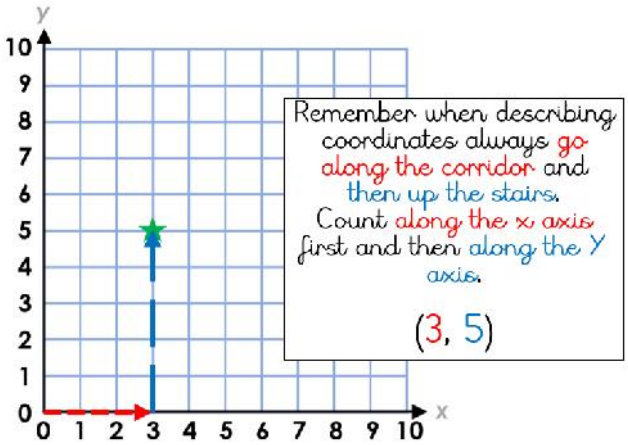
LO: To describe positions on a 2-d grid as coordinates in the first quadrant.

Core skill

Are the coordinates of each point correct? Write the Letters for each correct coordinate. Write the correct coordinate for those which are not correct.



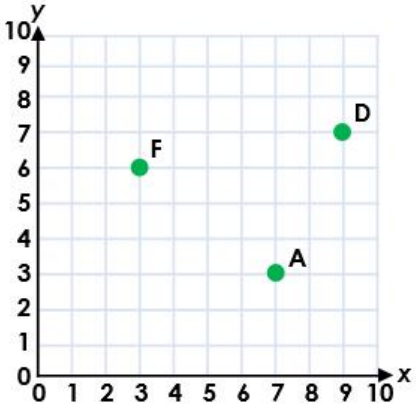
A = (6, 7) B = (8, 2) C = (2, 1)
D = (4, 3) E = (4, 8) F = (9, 6)



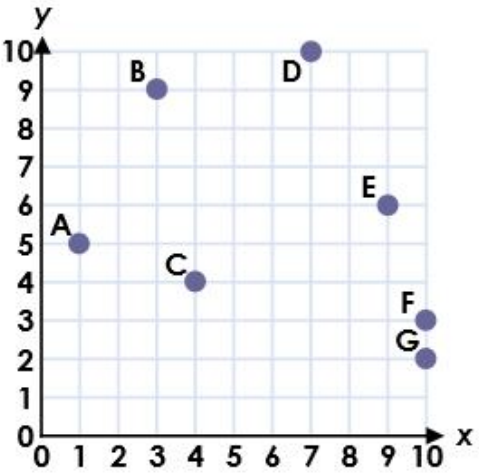
Depth task

Complete the missing coordinates and plot any missing points.

A = (,) B = (2, 9) C = (0, 5)
D = (,) E = (1, 4) F = (,)



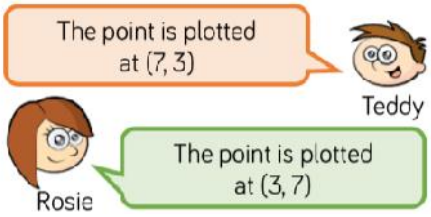
I'm thinking of a coordinate. The value of x is between 3 and 6 and on the y is between 1 and 6. Which coordinate could it be? Explain your answer.

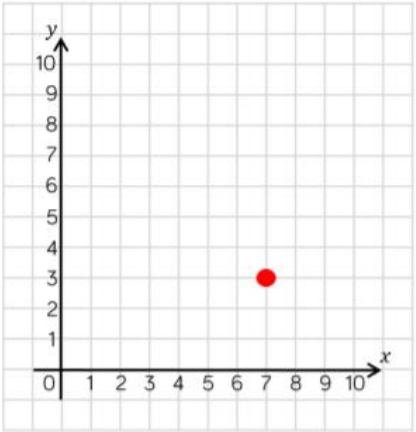


Greater Depth

Who is correct?

What mistake has one of the children made?





Maths

Activity 2

LO: To describe positions on a 2-d grid as coordinates in the first quadrant.

Core skill

Write the coordinates of all points for the following places that are shown on the gridded map of New York.

Central park has been done for you.

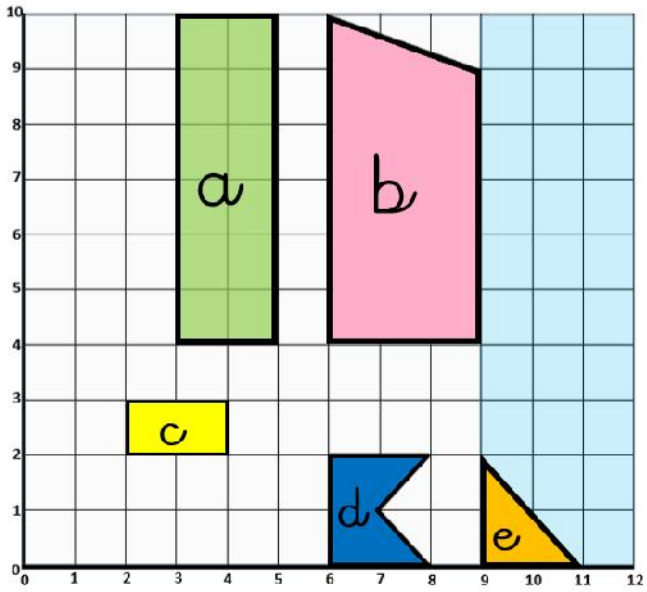
Central park a = (3,4), (5,4),(5,10),(3,10)

Upper east side b =

Time square c =

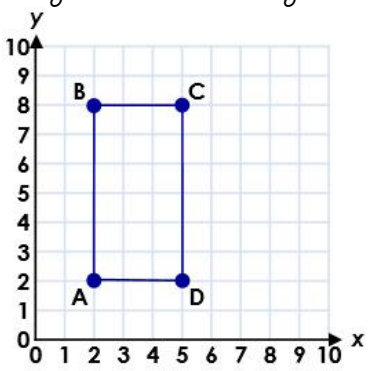
Gramercy park d =

Stuyvesant Town e =

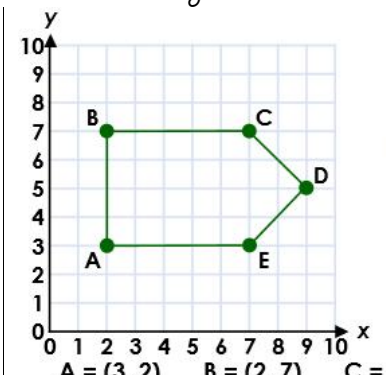


Depth task

Two children have written coordinates for each shape. Correct any mistakes they have made by writing the coordinates in your book.



A = (2, 2) B = (8, 2) C = (4, 8) D = (2, 5)

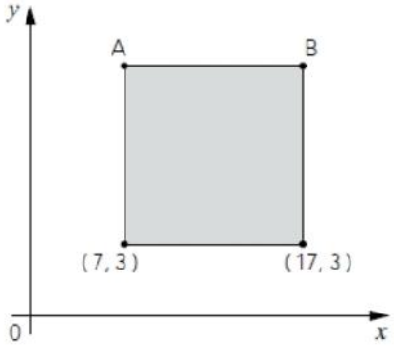


A = (3, 2) B = (2, 7) C = (7, 7)

D = (5, 9) E = (8, 3)

Greater depth

The shaded shape is a **square.** What are the coordinates for A and B?

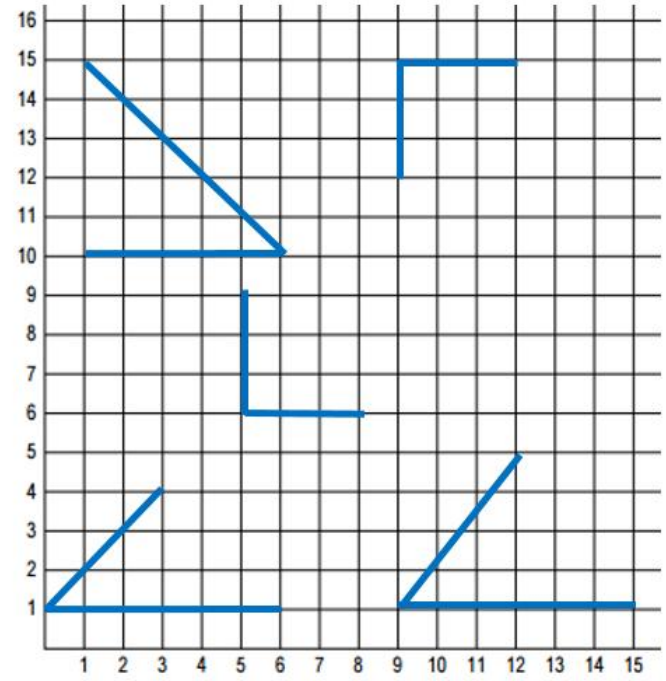


Maths

Activity 3

LO: To plot specified points and draw sides to complete a given polygon.

Core skill - For each shape, plot the remaining coordinates and connect the points together using a ruler.



Square
(5, 6) (8, 6) (8,9) (5,9)

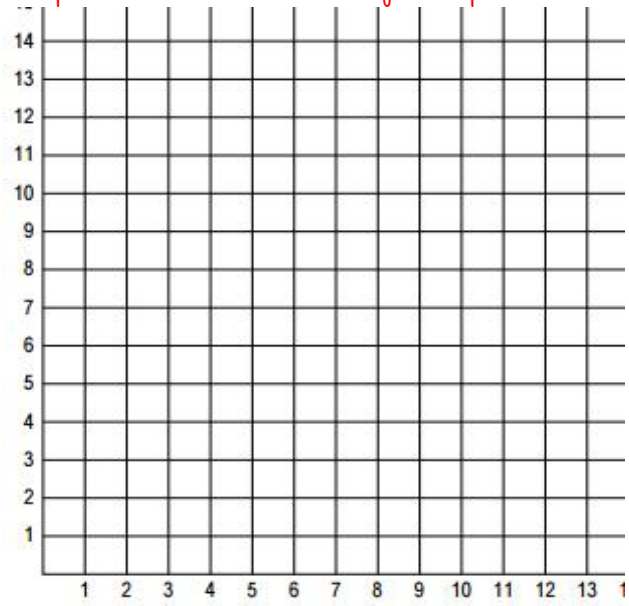
Parallelogram
(0, 1) (6, 1) (9, 4) (3,4)

Right angle triangle (1, 10) (6, 10) (1, 15)

Trapezium (9, 12) (12, 10) (12, 15) (9, 15)

Isosceles triangle (9, 1) (15, 1) (12, 5)

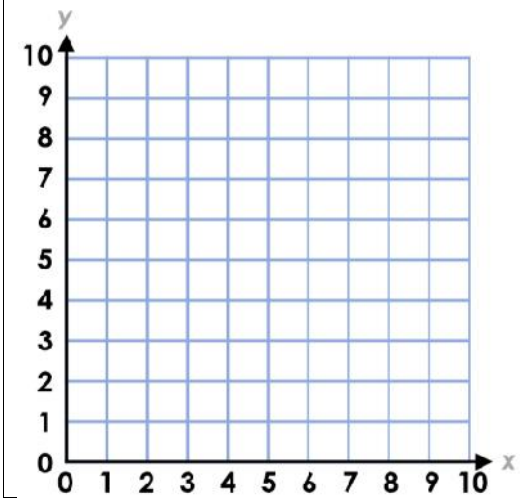
Depth task - Plot all of coordinates for each vertices for the following shapes and connect all of the points.



1. (1, 1) (7, 1) (7, 4) (1,3)
2. (2, 6) (3, 9) (2, 12) (1, 9)
3. (5, 7) (8, 7) (8,14) (5, 14)
4. (9, 2) (11, 2) (13, 4) (11, 6) (9, 6)
5. (10, 8) (12, 8) (11, 13)

Greater Depth - Here are coordinates for a shape: (2, 5), (6, 5), (7, 7), (3, 7). Using the following statements work out who is correct and explain your reasoning.

Maths

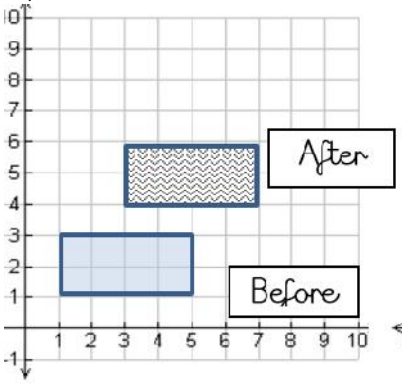


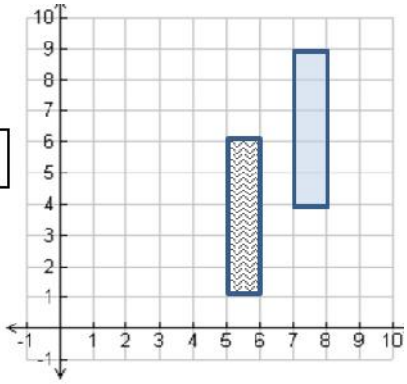
Sam says "The shape must be a square because it has four vertices."
Abdul says "I think the shape is a rectangle because it has a pair of sides which is longer than the other."
Aisha says "I think the shape is a parallelogram because it has no right angles."

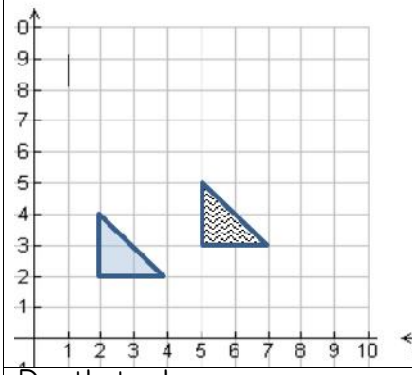
Maths

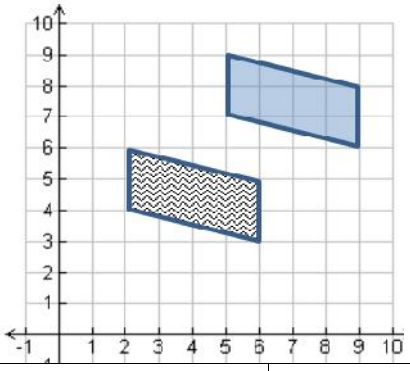
Activity 4 - LO: To plot specific points and describe movements between positions as translations of a given unit to the left/right and up/down.

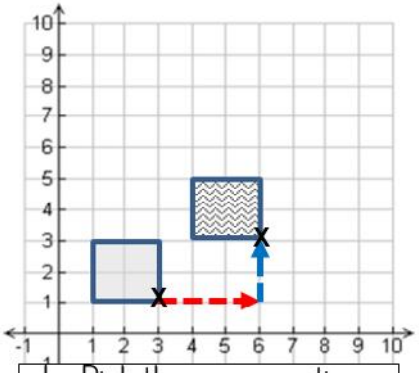
Core skill - Describe the translation for each set of shapes using left/right and up/down.











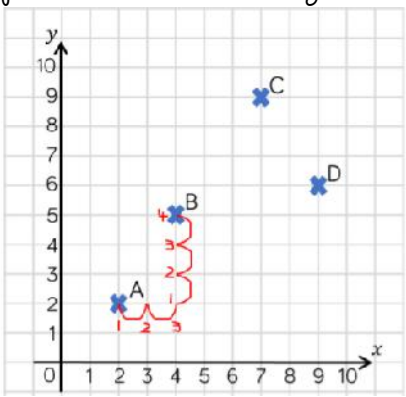
1. Pick the same vertices for the shape before and after translation.

2. Count how many spaces left or right.
3 spaces right.

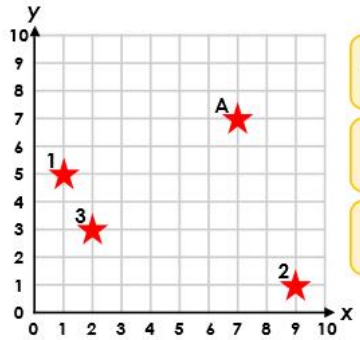
3. Count how many spaces up or down.
2 spaces up.

Depth task

Tommy has described the translation from A to B as 3 right and 4 up. Explain his mistake.



Star A has been translated three times. Match the numbered point to the correct translation statement.



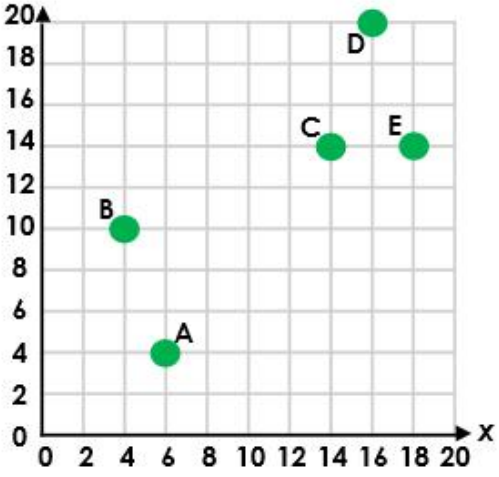
A. 2 right and 6 down

B. 5 left and 4 down

C. 6 left and 2 down

Greater depth

Points A and B have been moved 12 right and 10 up. Write the coordinates of the new point and explain which letter is **not** a translation of A or B

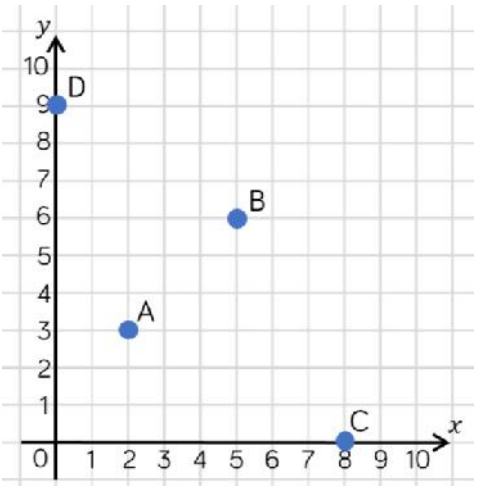


Maths

Activity 5

LO: To plot specific points and describe movements between positions as translations of a given unit to the left/right and up/down.

Core skill



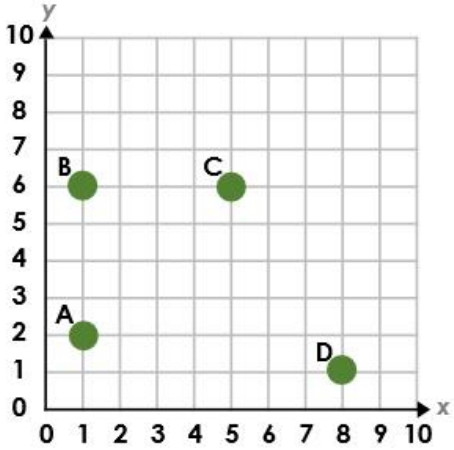
a. Translate A and 6 right and 3 down. Record the coordinates before (__, __) and after (__, ___)

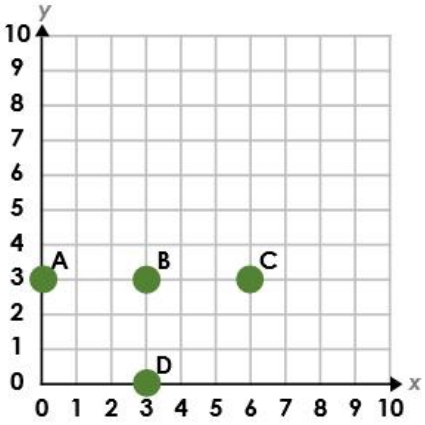
b. B and C 4 left and 3 up.
Coordinates for B before (__, __) and after (___, ___)
Coordinates for C before (__, __) and after (___, ___)

Depth task

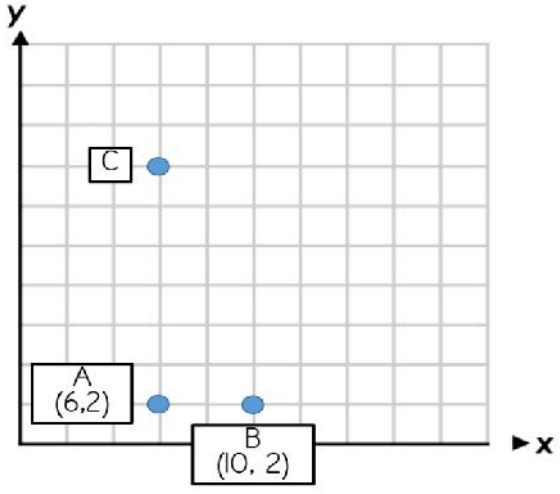
Move **one point** for each grid to create the vertices for a square. Record the new coordinates.

Vertices is where 2 lines meet on a shape.





Greater depth



When A is translated to B it moves ___ spaces to the right.
When A is translated to C it moves 3 times the amount of spaces up.
What are the coordinates for C?

(___, ___)

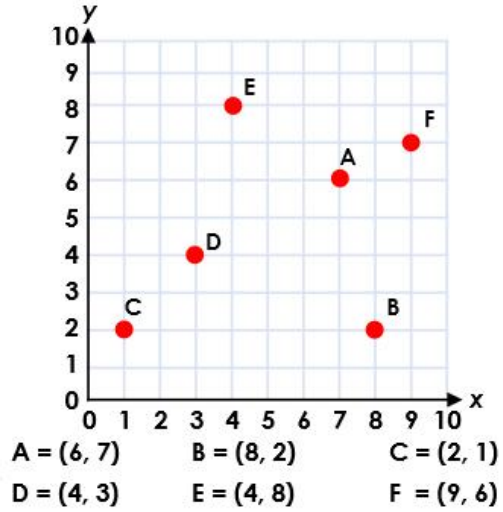
Answers

Activity 1

Maths

Core skill

Are the coordinates of each point correct? Write the Letters for each correct coordinate. Write the correct coordinate for those which are not correct.

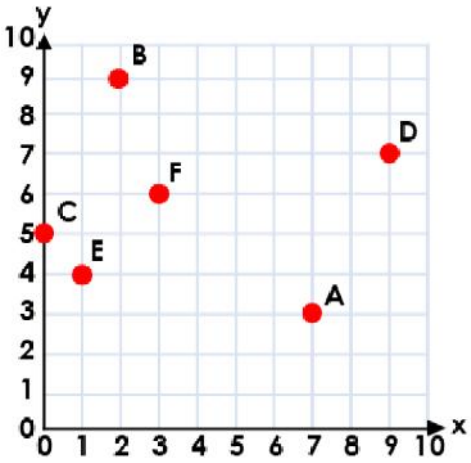


B and E are correct.

A= (7, 6); C = (1, 2); D = (3, 4) and F = (9, 7)

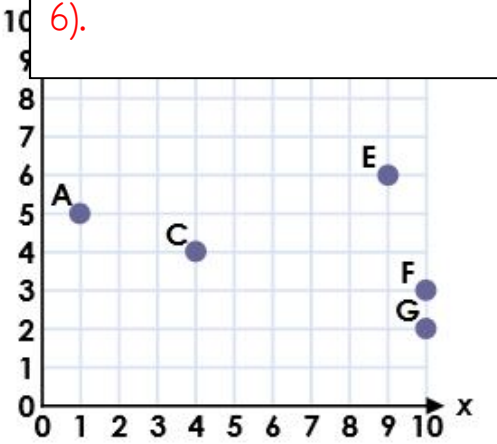
Depth task

A = (7, 3), D = 9, 7) and F = (3, 6)



I'm thinking of a coordinate. The value of [illegible] is between 3 and 6 [illegible] the y-axis is between 1 and 6. [illegible] could it be?

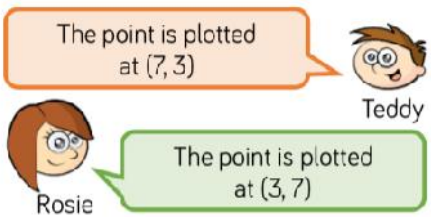
C is the only coordinate that has a value of x between 3 and 6 and a value of 7 between 1 and 6).

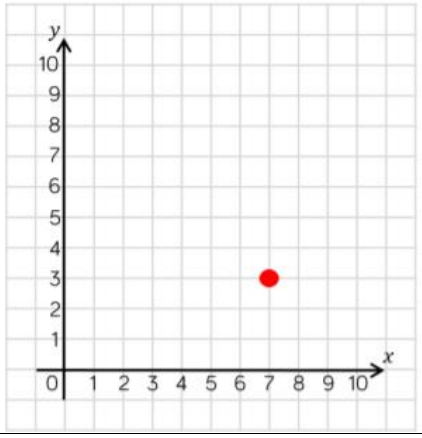


Greater Depth

Which [illegible] Which [illegible]

Teddy is correct. Rosie has read the y-axis before the x-axis.





Activity 2

Core skill

Maths

Write the coordinates of all points for the following places that are shown on the gridded map of New York.

Central park has been done for you.

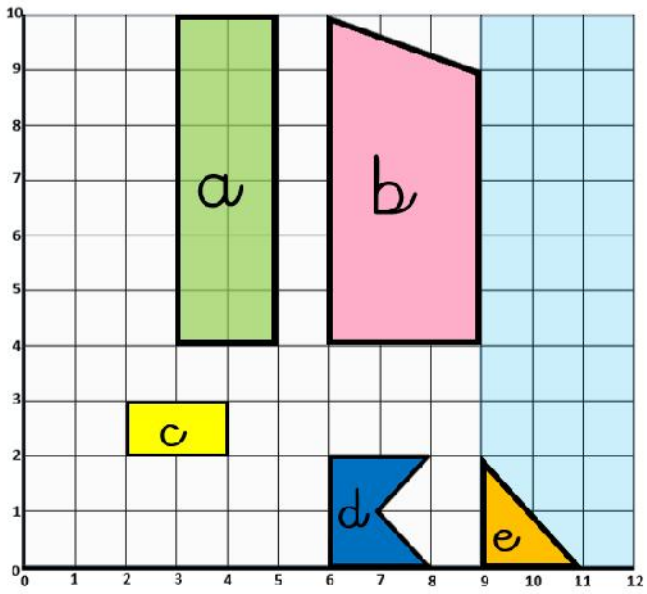
Central park a =
(3, 4), (5, 4),(5, 10),(3, 10)

Upper east side b =
(6, 4), (9, 4), (9, 9), (6, 10)

Time square c =
(2, 2), (4, 2), (4, 3), (2, 3)

Gramercy park d =
(6, 0), (8, 0), (7, 1), (8, 2), (6, 2)

Stuyvesant Town e =
(9, 0), (11, 0), (9, 2)



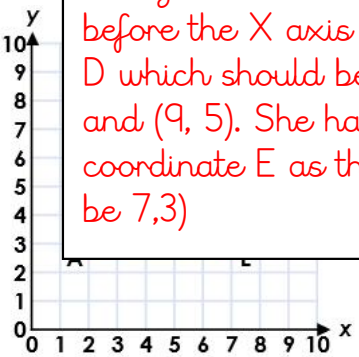
Depth task

Two children have written coordinates for each shape. Correct any mistakes

The boy has read the y axis before the x axis on coordinates B and D which should be (2, 8) and (5, 2). He has misread coordinate C, as this should be (5, 8)

A = (2, 2) B = (8, 2) C = (4, 8) D = (2, 5)

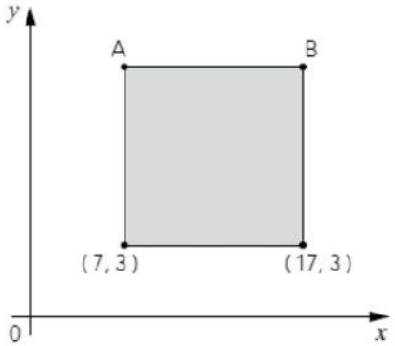
The girl has read the y axis before the X axis on A and D which should be (2, 3) and (9, 5). She has misread coordinate E as this should be 7,3)



A = (3, 2) B = (2, 7) C = (7, 7)
D = (5, 9) E = (8, 3)

Greater depth

The shaded shape is a **square.** What are the coordinates for A and B?



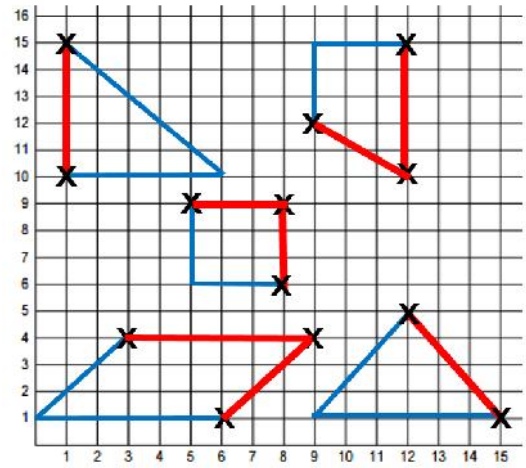
All of the sides of a square have the same length. There is a distance of 10 between the two bottom vertices so the difference vertically will also be ten.

A =(7, 13) and B = (17, 13)

Activity 3

Maths

Core skill - For each shape, plot the remaining coordinates and connect the points together.



Square =
(5, 6) (8, 6) (8,9) (5, 9)

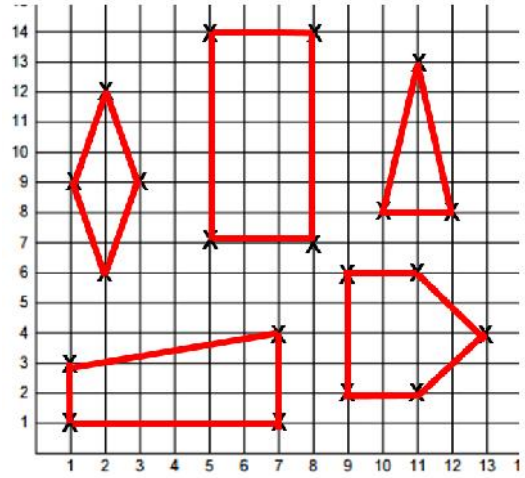
Parallelogram =
(0, 1) (6, 1) (9, 4) (3, 4)

Right angle triangle = (1, 10) (6, 10) (1, 15)

Trapezium = (9, 12), (12, 10), (12, 15), (9, 15)

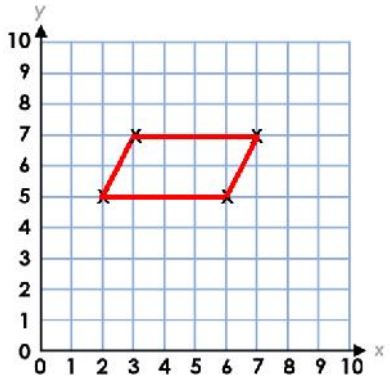
Isosceles triangle = (9, 1) (15, 1) (12, 5)

Depth task - Plot all of coordinates for each vertices for the following shapes and connect all of the points.



1. (1, 1) (7, 1) (7, 4) (1, 3)
2. (2, 6) (3, 9) (2, 12) (1, 9)
3. (5, 7) (8, 7) (8, 14) (5, 14)
4. (9, 2) (11, 2) (13, 4) (11, 6) (9, 6)
5. (10, 8) (12, 8) (11, 13)

Greater Depth - Here are coordinates for a shape: (2, 5), (6, 5), (7, 7), (3, 7). Using the following statements work out who is correct and explain your reasoning.



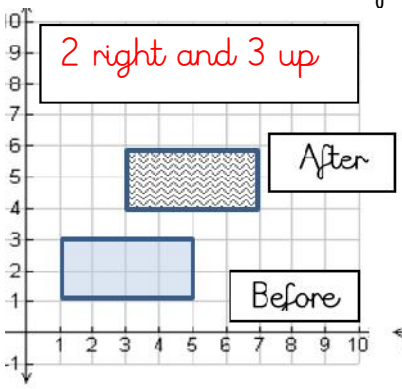
Sam says "The shape must be a square because it has four vertices."
Abdul says "I think the shape is a rectangle because it has a pair of sides which is longer than the other."
Aisha says "I think the shape is a parallelogram because it has no right angles."
Aisha is correct because the shape is a parallelogram. It has 4 vertices, no right angles and 2 pairs of lines with equal length.

Activity 4

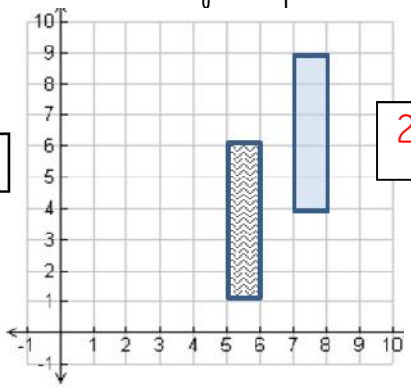
Maths

Core skill

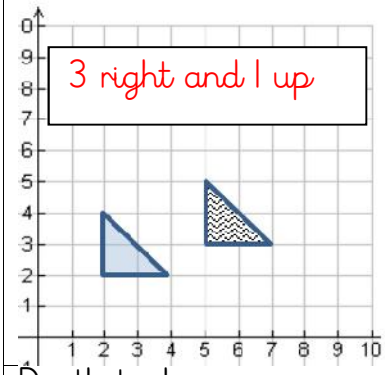
Describe the translation for each set of shapes using left/right and up/down



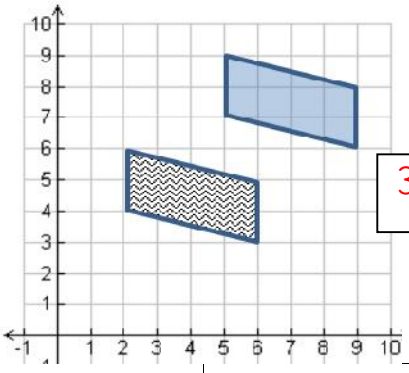
2 right and 3 up



2 left and 3 down



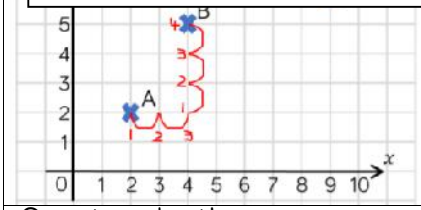
3 right and 1 up



3 left and 3 down

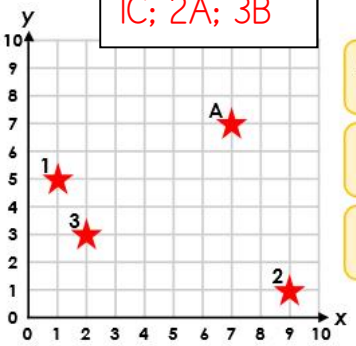
Depth task

Tommy has counted one move to the right when he has not moved anywhere yet. He has done the same for one move up when he has not moved up one space yet.



Star A has been translated three times. Match the numbered point to the correct translation statement.

1C; 2A; 3B



A. 2 right and 6 down

B. 5 left and 4 down

C. 6 left and 2 down

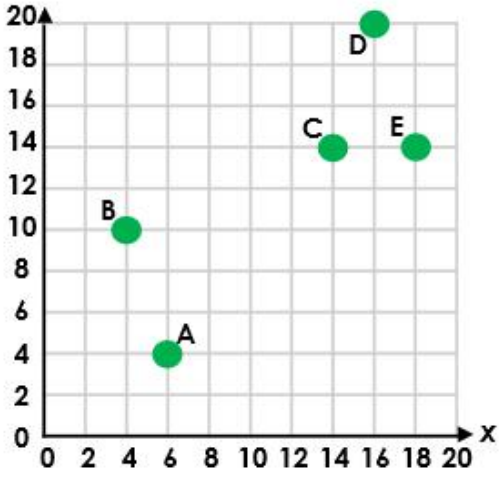
Greater depth

Points A and B have been moved 12 right and 10 up. Write the coordinates of the new point and explain which letter is **not** a translation of A or B

A has moved to E which is (18, 14)

B has moved to point D which is (16, 20)

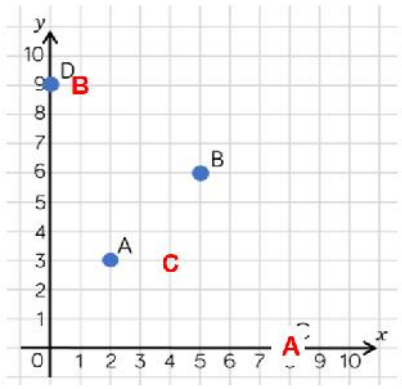
C is not a translation of A or B



Activity 5

Maths

Core skill



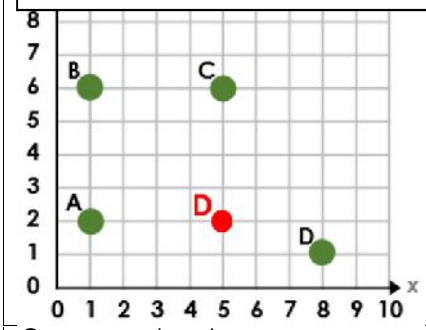
a. Translate A and 6 right and 3 down. Record the coordinates before (2, 3) and after (8, 0)

b. B and C 4 left and 3 up.
Coordinates for B before (5, 6) and after (1, 9)
Coordinates for C before (8, 0) and after (4, 3)

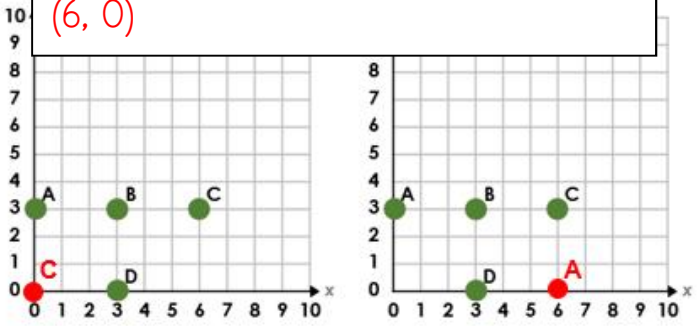
Depth task

Move **one point** for each grid to create the vertices for a square. Record the new coordinates.
Vertices is where 2 lines meet on a shape.

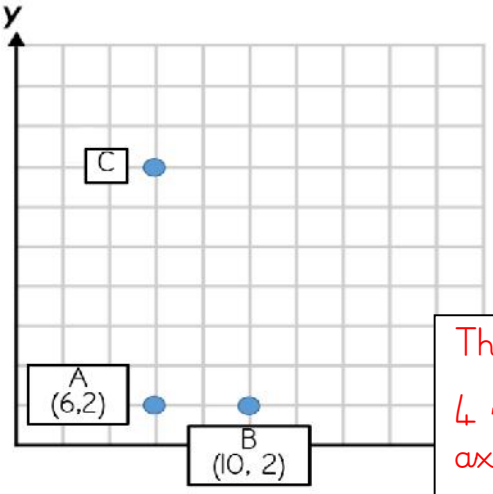
D becomes (5, 2) when moved 3 spaces left and one up to create the vertices for a square.



Either C moves 6 spaces left and 3 down to become (0, 0) or A moves 6 spaces right and 3 down to become (6, 0)



Greater depth



When A is translated to B it moves 4 spaces to the right.
When A is translated to C it moves 3 times the amount of spaces up.
What are the coordinates for C?
(6, 14)

The distance between A and B is 4.

4 x 3 = 12. Point A is already at 2 on the y axis so 2 + 12 = 14 on the y axis. C does move any spaces right or left so it remains at 6 on the x axis.