Homework/Extension
Step 2: Draw on a Grid

National Curriculum Objectives:

Mathematics Year 4: (4P3a) Describe positions on a 2-D grid as coordinates in the first quadrant
Mathematics Year 4: (4P3b) Plot specified points and draw sides to complete a given polygon

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)
Developing Say which statement is correct by plotting coordinates in the first quadrant. Using up to 4 points on a 5x5 grid, using 1:1 scale, to create squares and rectangles.
Expected Say which statement is correct by plotting coordinates in the first quadrant. Using up to 6 points on a 10x10 grid, using 1:1 scale, to create squares and rectangles.
Greater Depth Identify and explain the mistake by plotting coordinates in the first quadrant. Using up to 6 points on a 10x10 grid, using varying scales with some points plotted between increments, to create rectangles, right angled triangles, parallelograms, pentagons and hexagons.

Questions 2, 5 and 8 (Varied Fluency)
Developing State which coordinates could be removed to form a shape in the first quadrant. Using up to 4 points on a 5x5 grid, using 1:1 scale, to create squares and rectangles.
Expected State which coordinates could be removed to form a shape in the first quadrant. Using up to 6 points on a 10x10 grid, using 1:1 scale, to create a right angled triangle.
Greater Depth Create a shape by removing coordinates in the first quadrant. Using up to 6 points on a 10x10 grid, using varying scales with some points plotted between increments, to create rectangles, right angled triangles, parallelograms, pentagons and hexagons.

Questions 3, 6 and 9 (Reasoning and Problem Solving)
Developing Add missing pairs of coordinates in the first quadrant to create a shape. Using up to 4 points plotted on a 5x5 grid, using 1:1 scale, to create squares and rectangles.
Expected Add missing pairs of coordinates in the first quadrant to create different sized shapes. Using up to 6 points on a 10x10 grid, using 1:1 scale, to create squares, rectangles and right angled triangles.
Greater Depth Add missing coordinates in the first quadrant to create different sized shapes. Using up to 6 points on a 10x10 grid, using varying scales with some points plotted between increments, to create rectangles, right angled triangles, parallelograms, pentagons and hexagons.

More Year 4 Position and Direction resources.

Did you like this resource? Don't forget to review it on our website.

Draw on a Grid

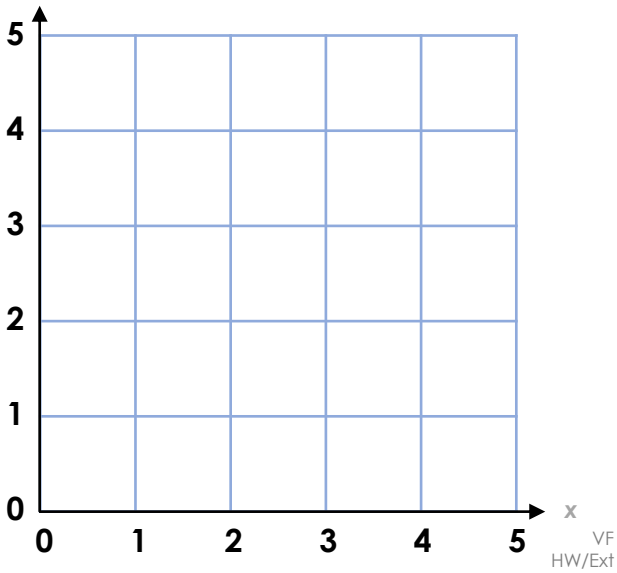
1. Who is correct?

Ami

If I plot the coordinates (1, 2) (1, 1) (1, 2) and (2, 1) it will make a square.

Toby

If I plot the coordinates (5, 5) (3, 5) (3, 3) and (5, 3) it will also make a square.



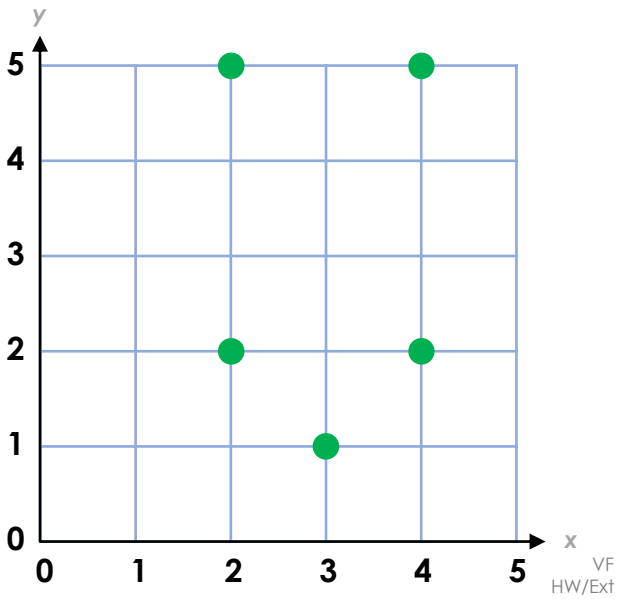
D

VF
HW/Ext

2. There are too many points on the grid.

Which point would you need to remove to make a rectangle?

Write the coordinates of the point.

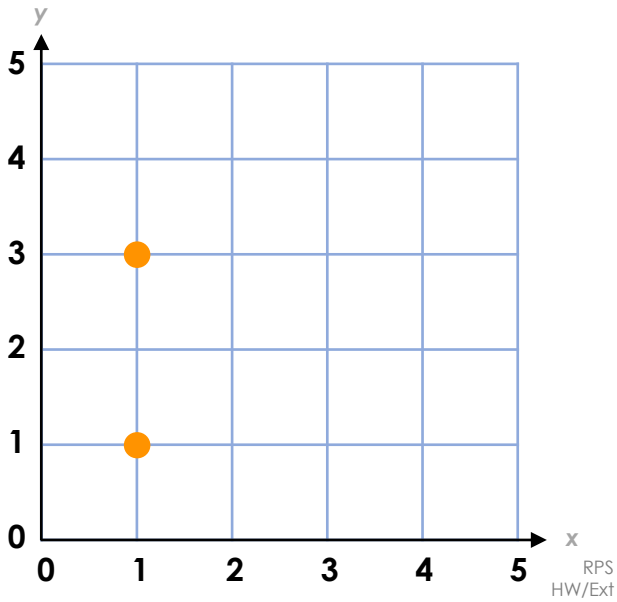


D

VF
HW/Ext

3. Create a rectangle on the grid below.

Write possible pairs of coordinates that when joined will make different sized rectangles.



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Draw on a Grid

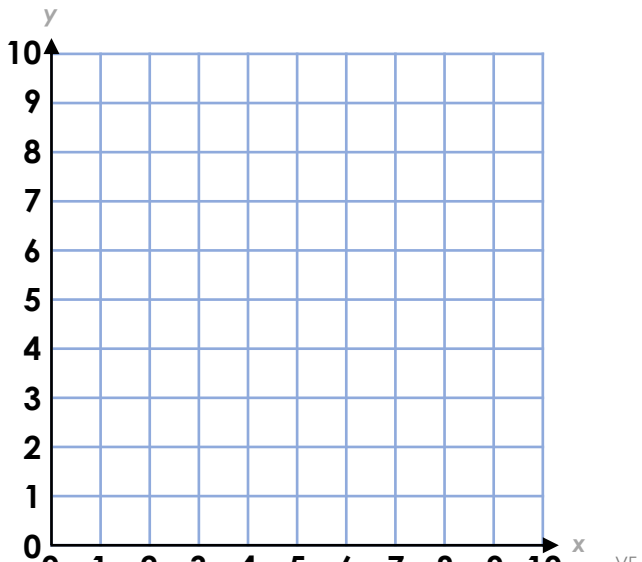
4. Who is correct?

David

If I plot the coordinates (1, 9) (1, 6) (4, 6) and (4, 9) it will make a square.

Emilia

If I plot the coordinates (9, 2) (4, 2) (2, 4) and (9, 4) it will make a rectangle.

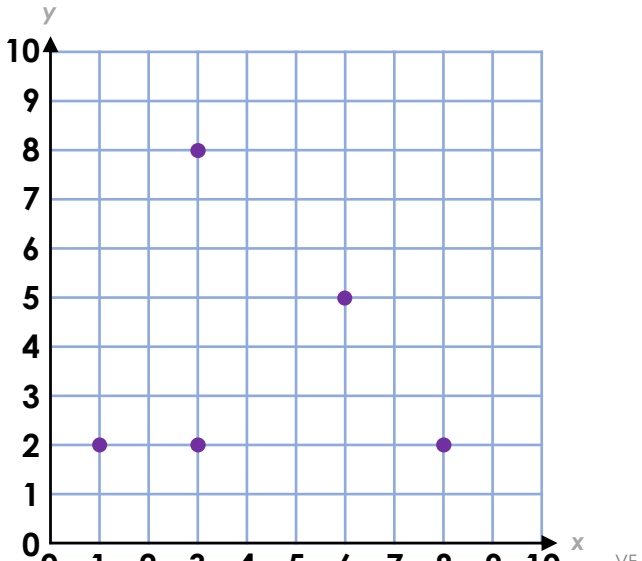


VF
HW/Ext

5. There are too many points on the grid.

Which two points could you remove to make a right-angled triangle?

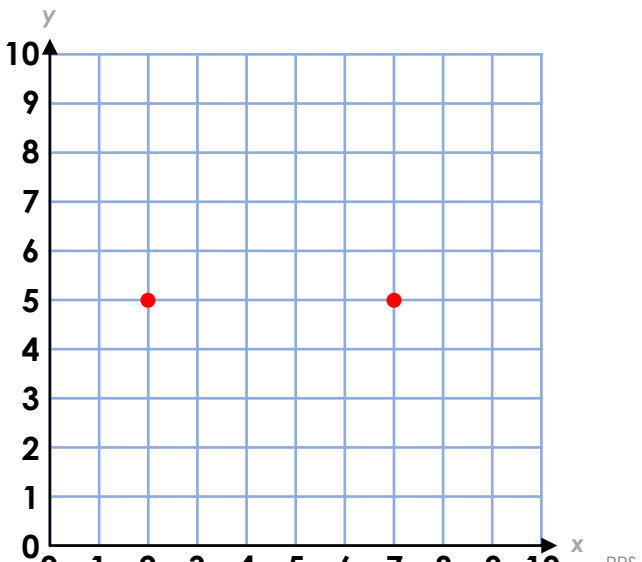
Write the coordinates of the two points.



VF
HW/Ext

6. Create a rectangle on the grid below.

Write possible pairs of coordinates that when joined will make different sized rectangle.



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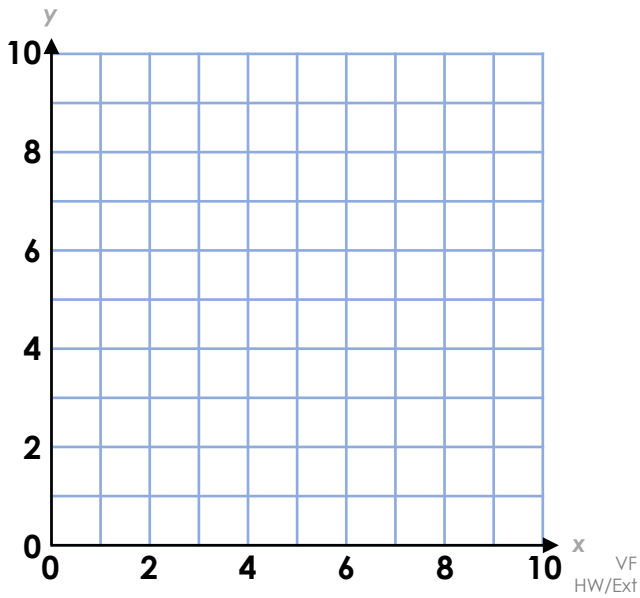
7. Who is correct?

Isaac

If I plot the coordinates (1, 1) (1, 5) (5, 1) and (3, 3) it will make a right angled triangle.

Tina

If I plot the coordinates (8, 10) (8, 6) (5, 9) and (5, 5) it will make a rectangle.



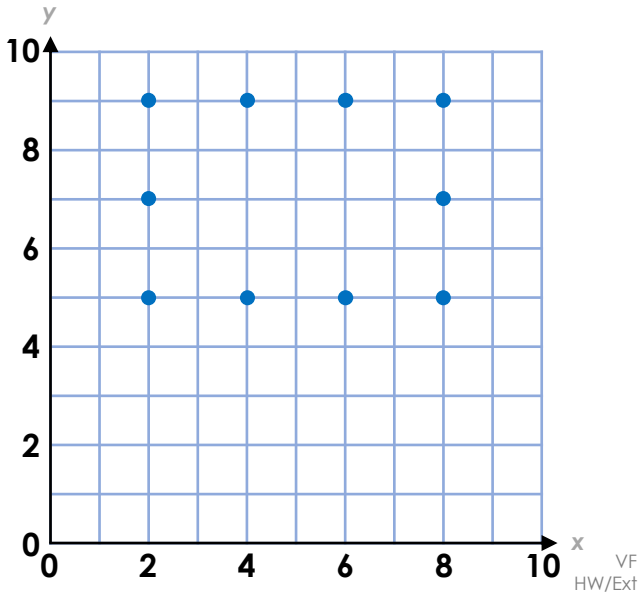
VF
HW/Ext

8. There are too many points on the grid.

Which points would you need remove to make a hexagon?

Write the coordinates.

Is it possible to make a pentagon by removing only two points?



VF
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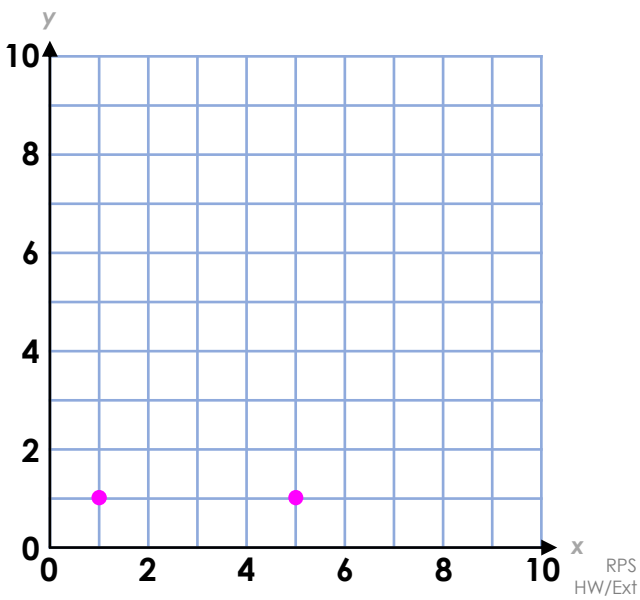
9. Create a parallelogram on the grid below.

Write possible pairs of coordinates that when joined will make different sized parallelograms.



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Developing

1. Toby
2. (3, 1)
3. Various answers; for example: (2, 1) and (2, 3)

Expected

4. David
5. (6,5) and (8,2) could be removed or (1,2) and (6,5)
6. Various answers, for example: (3, 2) and (7, 3)

Greater Depth

7. Isaac
8. Various answers, for example: Hexagon (2, 5), (2, 9), (8, 5) and (8, 9)
Pentagon (2, 5) and (2,9)
9. Various answers, for example: (2, 4) and (6, 4) or (3, 8) and (7, 8)