

Walt complete a pattern and draw a table and describe the rule for the pattern
 Success Criteria I know how to write a rule describing the number of matches.
 Graph these points on the number plane.
 Mark in the next two points and write their coordinates

another way. The type of data used is discrete data. It is not possible to use half a match in making a shape.

EXAMPLE 1

Consider this pattern of matches.



a Complete this table.

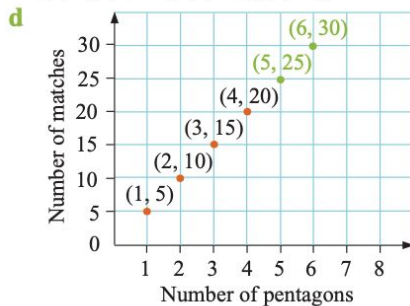
Number of pentagons	1	2	3	4
Number of matches				

- b Write a rule describing the number of matches required to make each pattern.
 c Using x to represent the number of pentagons and y to represent the number of matches, write a set of points describing this information.
 d Graph these points on the number plane.
 e Mark in the next two points and write their coordinates.

a

Number of pentagons	1	2	3	4
Number of matches	5	10	15	20

- b Number of matches equals five times the number of pentagons.
 c (1, 5), (2, 10), (3, 15), (4, 20)



- e (5, 25), (6, 30)

Do not join the dots. !

1 Consider this pattern of matches.



a Complete this table.

Number of squares	1	2	3	4
Number of matches				

- b Write a rule describing the number of matches required to make each pattern.
 c Using x to represent the number of squares and y to represent the number of matches, write a set of points describing this information.
 d Graph these points on the number plane.
 e Mark in the next two points and write their coordinates.

2 Consider this pattern of matches.



a Complete this table.

Number of triangles	1	2	3	4
Number of matches				

b Write a rule describing the number of matches required to make each pattern.

c Using x to represent the number of triangles and y to represent the number of matches, write a set of points describing this information.

d Graph these points on the number plane.

e Mark in the next two points and write their coordinates.

3 Consider this pattern of matches.



a Complete this table.

Number of hexagons	1	2	3	4
Number of matches				

b Write a rule describing the number of matches required to make each pattern.

c Using x to represent the number of hexagons and y to represent the number of matches, write a set of points describing this information.

d Graph these points on the number plane.

e Mark in the next two points and write their coordinates.

4 Consider this pattern of matches.



a Complete this table.

Number of squares	1	2	3	4
Number of matches				

b Write a rule describing the number of matches required to make each pattern.

c Using x to represent the number of squares and y to represent the number of matches, write a set of points describing this information.

d Graph these points on the number plane.

e Mark in the next two points and write their coordinates.

EXAMPLE 2

Consider this pattern of matches.



a Complete this table.

Number of triangles	1	2	3	4	5
Number of matches					

b Write a rule describing the number of matches required to make each pattern.

c Using x to represent the number of triangles and y to represent the number of matches, write a set of points describing this information.

d Graph these points on the number plane.

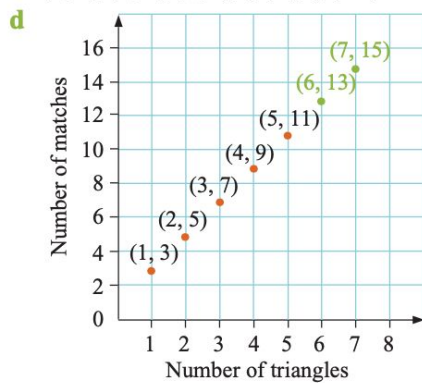
e Mark in the next two points and write their coordinates.

a

Number of triangles	1	2	3	4	5
Number of matches	3	5	7	9	11

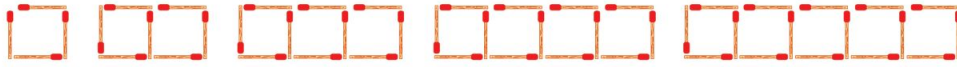
b The number of matches goes up by 2 as the number of triangles goes up by 1, so the formula must have $2 \times$ number of triangles. This would give 2, 4, 6, 8 and 10, but the values in the table are 3, 5, 7, 9 and 11, so a 1 must be added. So number of matches = $2 \times$ number of triangles + 1.

c (1, 3), (2, 5), (3, 7), (4, 9), (5, 11)



e (6, 13) and (7, 15)

5 Consider this pattern of matches.



a Complete this table.

Number of squares	1	2	3	4	5
Number of matches					

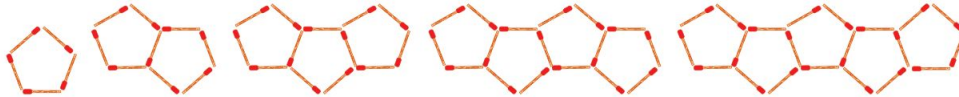
b Write a rule describing the number of matches required to make each pattern.

c Using x to represent the number of squares and y to represent the number of matches, write a set of points describing this information.

d Graph these points on the number plane.

e Mark in the next two points and write their coordinates.

6 Consider this pattern of matches.



a Complete this table.

Number of pentagons	1	2	3	4	5
Number of matches					

b Write a rule describing the number of matches required to make each pattern.

c Using x to represent the number of pentagons and y to represent the number of matches, write a set of points describing this information.

d Graph these points on the number plane.

e Mark in the next two points and write their coordinates.

7 a Consider this pattern of matches and complete the following table.



Number of hexagons	1	2	3	4	5
Number of matches					

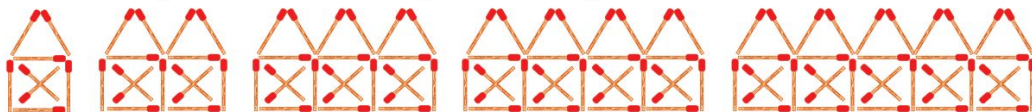
b Write a rule describing the number of matches required to make each pattern.

c Using x to represent the number of hexagons and y to represent the number of matches, write a set of points describing this information.

d Graph these points on the number plane.

e Mark in the next two points and write their coordinates.

8 a Consider this pattern of matches and complete the following table.



Number of houses	1	2	3	4	5
Number of matches					

b Write a rule describing the number of matches required to make each pattern.

c Using x to represent the number of houses and y to represent the number of matches, write a set of points describing this information.

d Graph these points on the number plane.

e Mark in the next two points and write their coordinates.