

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.

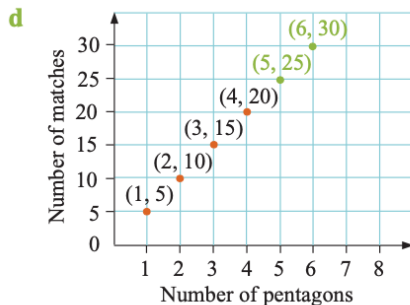
Number of pentagons	1	2	3	4
Number of matches				

- 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.

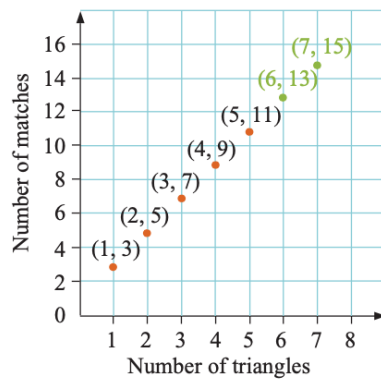
a

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)

d



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					

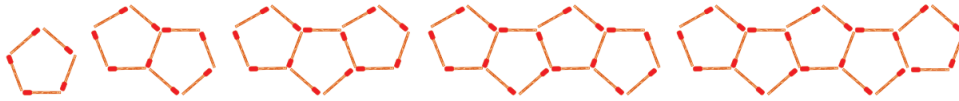
b Write a rule describing the number of matches required to make each pattern.

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					

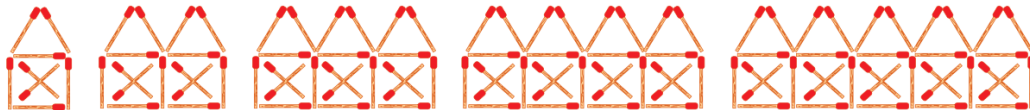
b Write a rule describing the number of matches required to make each pattern.

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.