

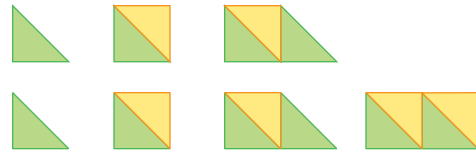
Get Ready

Explore Patterns

Patterns come in the form of shapes, pictures, colours, numbers, letters, and so on.

In this pattern, you add one green triangle, then one yellow triangle, then one green triangle, and so on.

Once you determine a pattern, you can predict what comes next.



1. Continue each pattern for three more items.

- a)
- b)
- c) ab, abc, ab, abc, ab, ...

2. Continue each number pattern for three more items.

- a) 1, 3, 5, 7, ...
- b) 50, 45, 40, 35, ...
- c) 3, 6, 9, 12, ...
- d) 6000, 5000, 4000, 3000, ...

Describe Patterns

You can use a table to show a pattern.

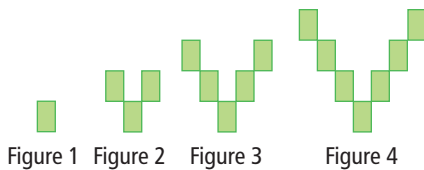
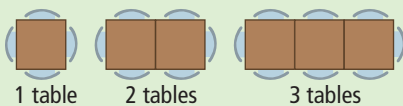


Figure	Number of Rectangles
1	1
2	3
3	5
4	7

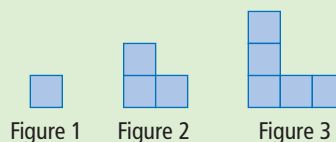
3. The following shows a pattern in the number of chairs arranged around tables. Copy the chart and fill in the blanks.



Number of Tables	1	2	3	4
Number of Chairs				

Charts can be vertical or horizontal.

4. Study the pattern of squares.



- a) Draw a picture that shows how Figure 4 in the pattern would look.
- b) Make a table showing the number of squares in each of the first five figures.

Determine Pattern Rules

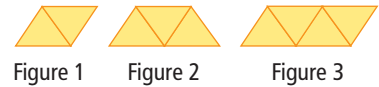
You can make a rule that describes a pattern.

Here is a rule for the pattern shown:

The number of triangles is one more than the figure number.

You can use the rule to make predictions:

There would be 11 triangles in Figure 10 because $10 + 1 = 11$.

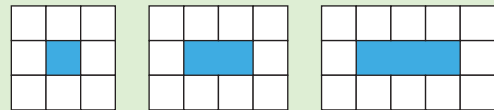


5. The following shows a number pattern:

1, 5, 9, 13, 17, ...

- What number comes next in the pattern?
- Describe in words a pattern rule for the numbers.
- Explain what you did to determine the pattern.

6. A swimming pool deck increases in size by the following pattern.



Deck 1

Deck 2

Deck 3

- Draw the next deck in the pattern.
- What is a pattern rule for the number of white squares?
- What is the number of white squares around the pool in Deck 20?

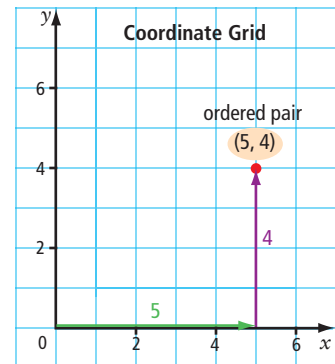
Use Graphing Skills

Graphs show relationships between two things.

To make a graph, you plot ordered pairs on a coordinate grid.

To plot the ordered pair (5, 4),

- start at (0, 0)
- move 5 units right
- then, move 4 units up
- mark a dot



7. For each ordered pair, copy and complete this statement: Move units to the right.

Then, move units up.

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

8. a) Draw a coordinate grid with numbers from 0 to 8 on each axis.

- b) Plot these ordered pairs on your coordinate grid:

A(5, 8), B(8, 5), C(8, 1), D(2, 1), E(2, 5)

- c) Join the points in alphabetical order. Join E to A. What is the shape?