



## Rules of geometric patterns

### CAPS Statement

#### Patterns, Functions and Algebra

Geometric patterns:

- Investigate and extend geometric patterns looking for relationships or rules of patterns
- represented in physical or diagram form
- sequences involving a constant difference
- of learner's own creation

### Notes

Find a pattern and see how much bigger the next shape is from the last – patterns with a constant difference:

You need 4 lines to make a square.



We add 3 dotted lines touching the first square to make another square.

Therefore, 4 lines + 3 dotted lines = 7 lines in total.



We add 3 dotted lines touching the second square to make yet another square.

Therefore the 7 lines in total + 3 dotted lines = 10; and so on ...



### Activity 1

The patterns get bigger each time. Write the the missing numbers in the boxes.

a



Number. of crayons:

3





**b** Draw the missing crayons.

9

11

**c** How many pencils did you add on each time? \_\_\_\_\_

## Activity 2

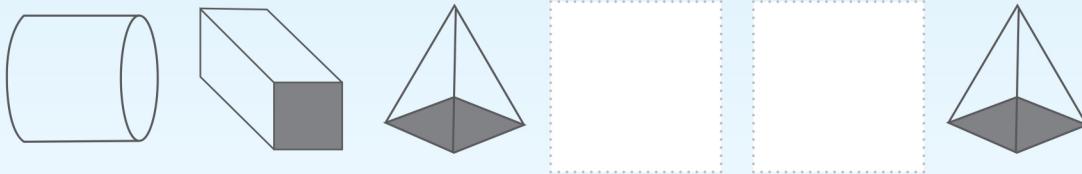
### Notes

Look for a pattern in these shapes:



Help Themba find the pattern. Draw in the shapes to complete the pattern.

**a**



**b**



### Teacher Tip

Use different examples for each of these activities. Cut out paper, cardboard or use stationery to show the different patterns. Pupils grasp abstract concepts quicker if they manipulate objects first. The next step is to place all of these patterns into a table: Triangle 1 = 3 colour pencils; Triangle 2 = 5 colour pencils; etc. The learners will see that the pattern is adding 2 pencils each time.