Chapter 15

Patterns

Basic Patterns

Revision

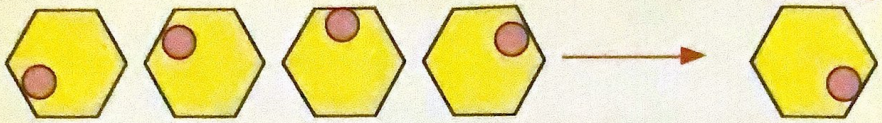
Be able to spot and continue a simple pattern

Mathematicians like to look for **rules** for patterns in drawings and in sets of numbers.

This helps them decide how to **continue** the pattern or the set of numbers.

Examples :-

A Drawing Pattern -



A Letter Pattern :-

P, R, T, V, X, ... → Z (next letter)

A Number Pattern :-

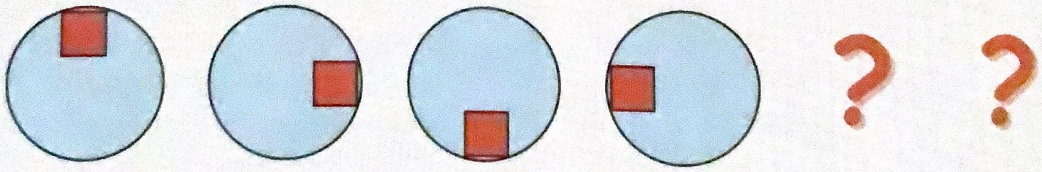
4, 9, 14, 19, 24, ... → 29 (next number)

Discuss how the patterns are formed in the above 3 examples.

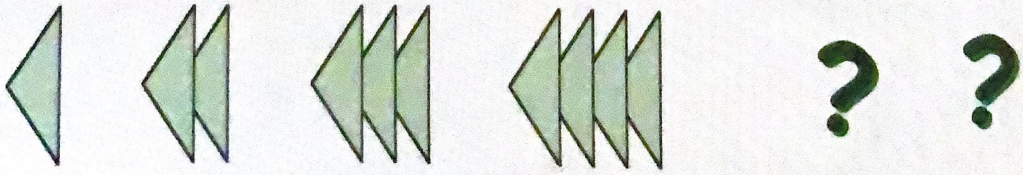
Exercise 1

1. Show the next 2 drawings in each of these pattern (neatly).

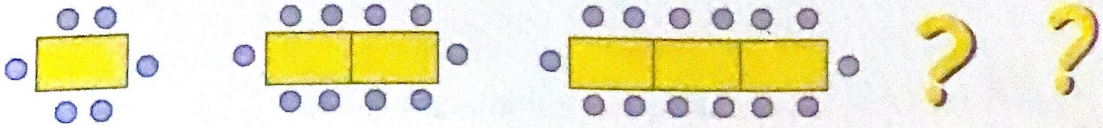
a



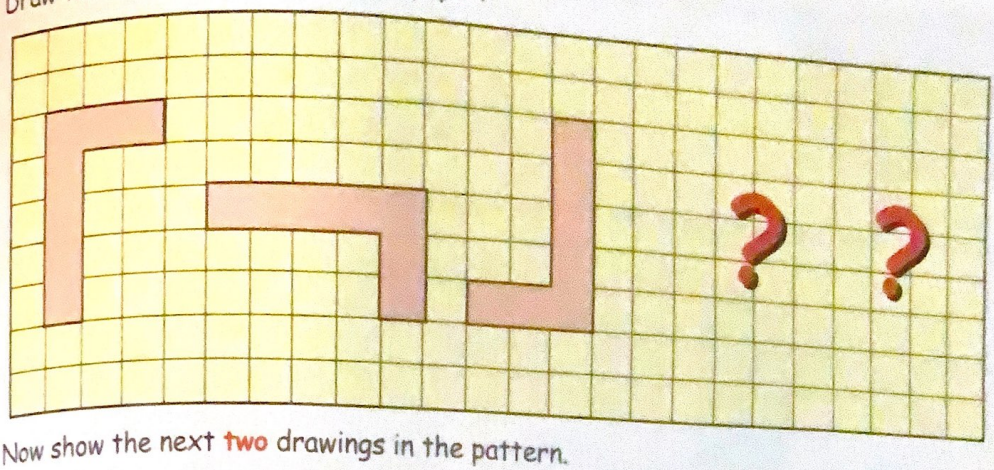
b



c

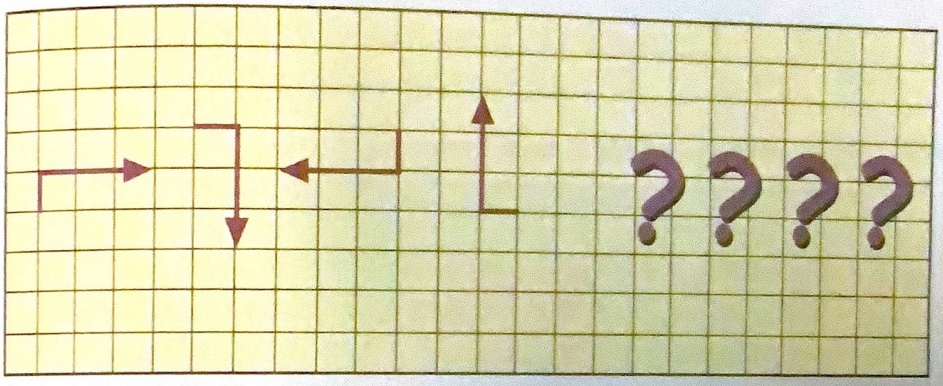


2. a Draw these 3 patterns on squared paper.



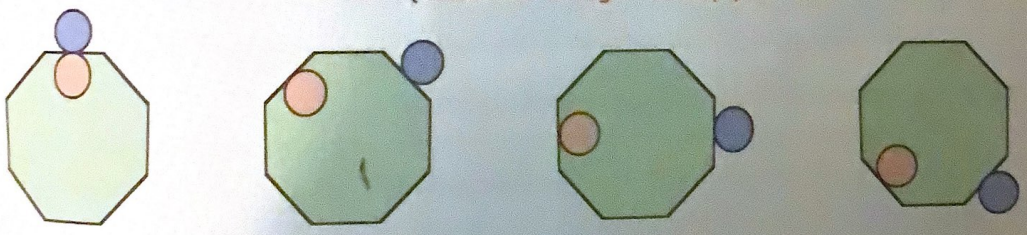
b Now show the next **two** drawings in the pattern.

3. a Copy the four drawings below.

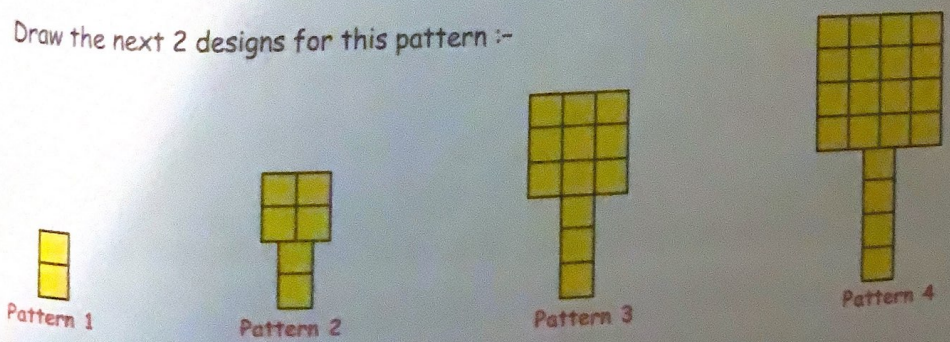


b Show the next **four** drawings which follow the pattern above.

4. This is a more complicated pattern. Draw the next two patterns.
(*Trace the hexagon to help you*).



5. a Draw the next 2 designs for this pattern :-



b How many squares are there in pattern :- (i) 1 (ii) 2 (iii) 3 (iv) 4 ?

c How many squares will there be in pattern :- (i) 5 (ii) 6 (iii) 7 (iv) 8 ?

6. Copy each pattern of letters and find the next letter in the pattern.

a G, I, K, M, O, ...

b C, F, I, L, O, ...

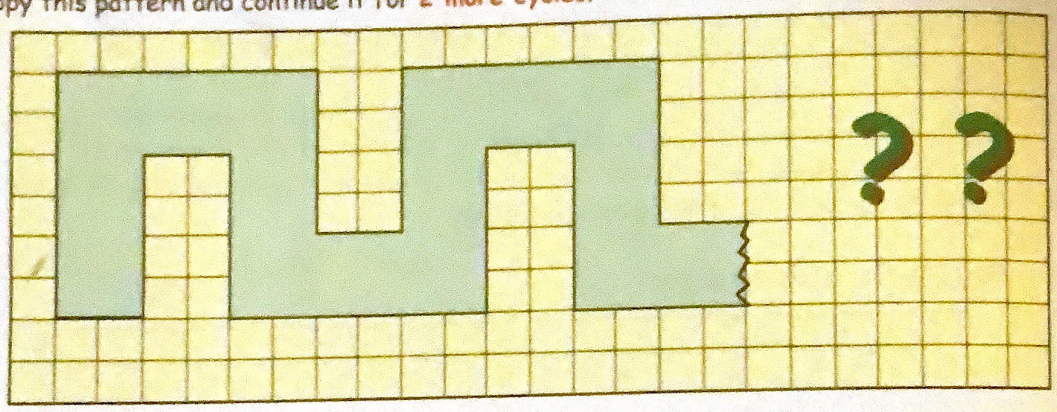
c G, F, E, D, C, ...

d a, e, i, o, ...

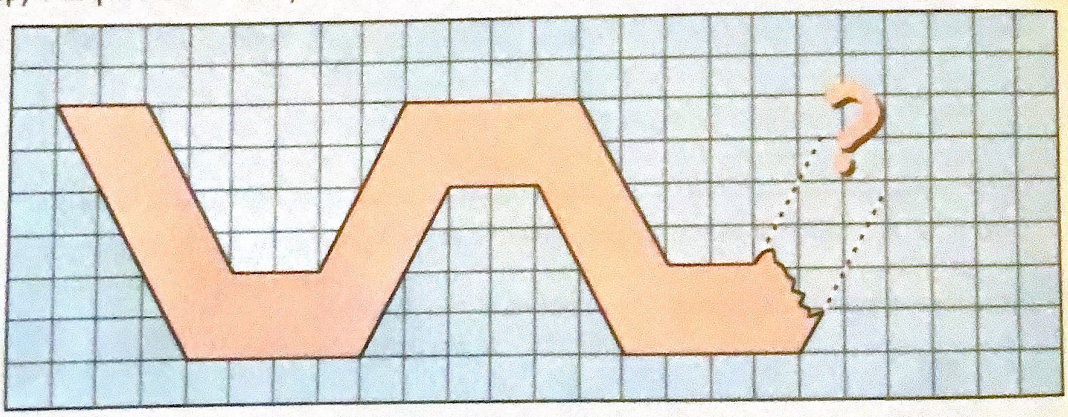
e L, J, H, F, ...

f A, Z, B, Y, C, X, ...

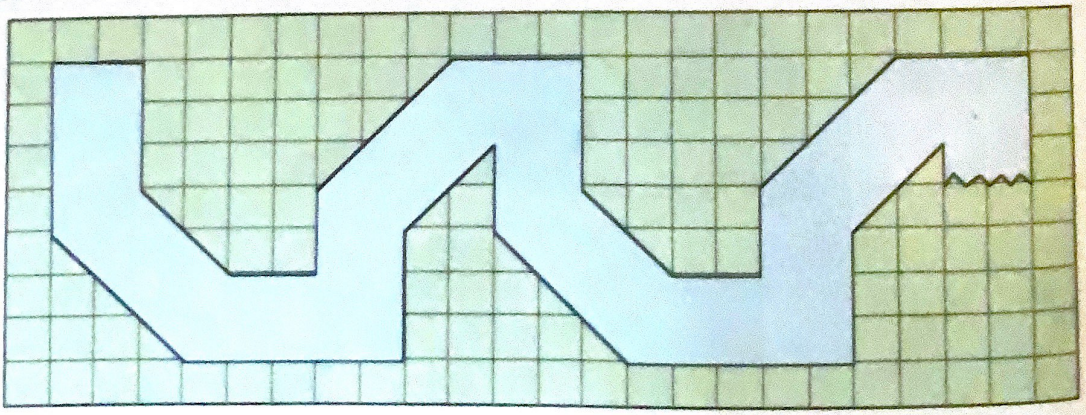
7. Copy this pattern and continue it for 2 more cycles.



8. Copy this pattern carefully and add 2 more cycles.



9. Copy this pattern carefully and add 2 more cycles.



10. Patterns like the ones shown in Questions 8-10 often occur in wallpaper.

The patterns repeat themselves.

Design and colour a neat pattern which repeats itself 4 or 5 times.