Patterns

14

Q1. Observe carefully and complete the pattern by drawing and colouring appropriately.

 _____ , _____ , _____

Q2. Observe the number patterns, and fill in the blanks.

a. 1, 2, 6, 24, _____ , _____

b. 2, 3, 5, 7, 11, _____ , _____

c. 0, 1, 3, 6, 10, _____ , _____

Q3. Choose which figure should come next in the following patterns:

a.

i.

ii.

iii.

b.

i.

ii.

iii.
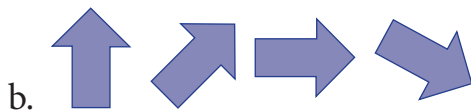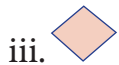
Q4. Write the first 5 square numbers.

Answer: _____

Q5. Draw the correct dot pattern of the following square numbers:

    a. 16

    b. 36

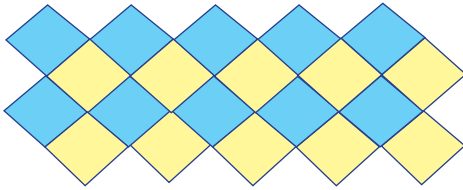**Q6.** State true or false:

    a. The eleventh square number is even.   _____

    b. The second triangular number is 3.   _____

    c. Square numbers can never be odd.   _____

    d. The fourth triangular number is 10.   _____

Q7. Find the sum of first seven triangular numbers.

    Answer: ____ + ____ + ____ + ____ + ____ + ____ + ____ = ____

Q8. Complete the pattern by tiling and colouring:
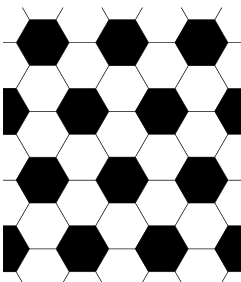

Q9. Make a border using concentric circles only in the space given below.

    Answer:

Q10. Choose which geometrical shape(s) has been used in making the following pattern:
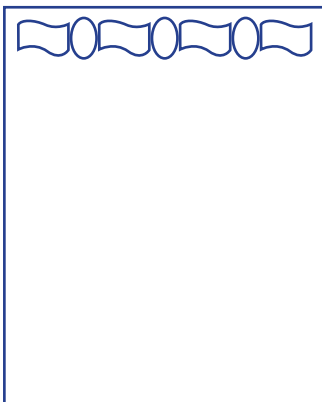

    a. Only hexagons

    b. Only pentagons

    c. Hexagons and pentagons

    Answer: _____

2

Q11. Represent the first three triangular numbers by dots in triangular form.

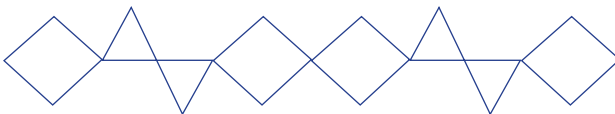| Triangular Number	Dot structure
1.	
2.	
3.	

Q12. Zeenat has made a border on one side of the table cloth. Help her by completing the pattern on the other three sides of the table cloth.

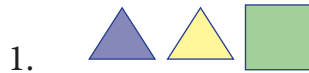Q13. Which of the following is not a tiling pattern?

a.

b.

c.

Q14. The following pattern uses two geometrical shapes: rhombus and triangle. Re-draw the following pattern using triangles only in the box given below.

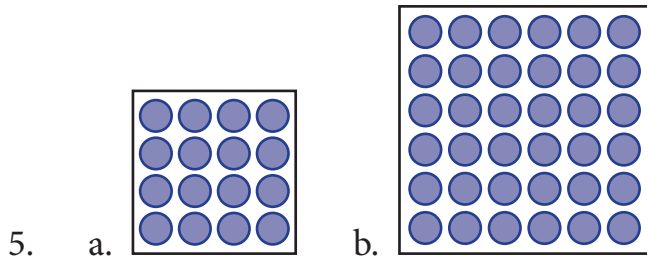Q15. Colour the border given below by repeating the colour pattern:

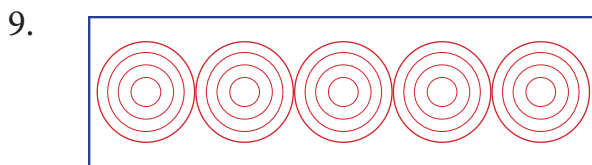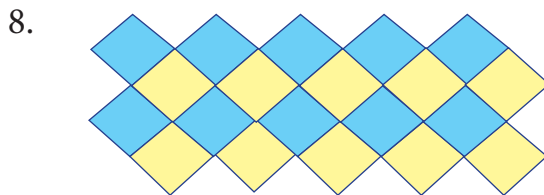# ANSWERS

1.

2. a. 120, 720;   b. 13, 17;   c. 15, 21

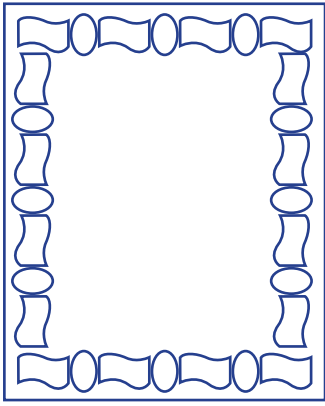3. a. (i);   b. (ii)

4. 1, 4, 9, 16, 25

5. a.   b.

6. a. False;   b. True;   c. False;   d. True
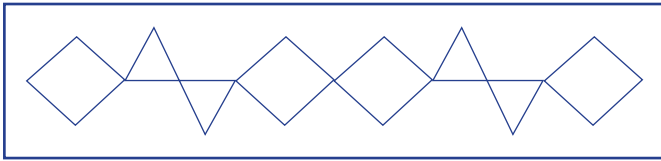
7. 1 + 3 + 6 + 10 + 15 + 21 + 28 = 84

8.

9.

10. (a) Only hexagons

11.

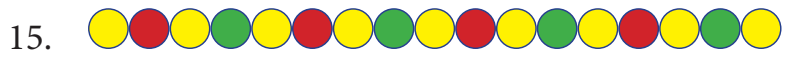| Triangular Number	Dot structure
1	
3	
6	

12.

13. (a)

14.

15.