Mathematics

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(Chapter – 11) (Algebra) (Practice Test 1)

(Class VI)

Time: 1 Hour 15 Minutes **M. M: 25**

General Instructions:

- This question paper contains four sections: A, B, C and D. Each part is compulsory.
- Section A has 5 MCQ of one mark each.
- Section B has 3 questions of two marks each.
- Section C has 3 questions of three marks each.
- Section D has 2 questions of five marks each, attempt any 1 out of 2.
- There is no negative marking.

Section – A

1. The side of a square is l. Its perimeter is

(A) 3l (B) 2l (C) 4l (D) 6l

2. The expression for 'p multiplied by – 2' is

(A) –2p (B) – p2 (C) p – 2 (D) – p – 2

3. The expression for '2 times x from which 1 is subtracted' is

(A) 2x – 1 (B) 2x + 1 (C) x – 2 (D) x + 2.

4. The side of an equilateral triangle is l. Its perimeter is

(A) l (B) 2l (C) 3l (D) 6l

5. The rule, which gives the number of matchsticks required to make the matchstick pattern S, is

(A) 3 l (B) 4 n (C) 5 n (D) 6 n

Section – B

6. If the side of an equilateral triangle is x, find its perimeter.

7. (For example, Given Salim scores r runs in a cricket match, Nalin scores (r + 15) runs. In ordinary language – Nalin scores 15 runs more than Salim.)
(a) A notebook costs ₹p. A book costs ₹3p.

8. The side is denoted by l. Express the perimeter of the hexagon using l.

Section – C

9. Six less than a number of equals to two. What is the number?

10. Simplify combining like terms:(i) $(3y^2 + 5y – 4) – (8y – y^2 – 4)$

11. Write an algebraic expression for the following expressions:
(a) The sum of a number x and 4 is doubled.
(b) One fourth of a number x is added to one third of the same number.

Section – D

12. If x = 3, find the value of the following:

(i) x + 5 (ii) 2x – 3 (iii) x – 7

13. State which of the following are equations with a variable?

(a) 12 = x – 5 (b) 2x > 7 (c) $x^2 = 5$ (d) 5 + 7 = 3 + 9

Answers

Section – A

1. 4I
2. –2p
3. 2x – 1
4. 3I
5. 5N

Section – B

6. T = 3x

(Hint: We know that the three sides of an equilateral triangle are equal.
∴ x + x + x = 3x.
Thus, the required perimeter = 3x units)

7. A book costs 3 times the costs of a notebook.

8. 6I

(Hint: Side of a regular hexagon = l
Perimeter = l + l + l + l + l + 1 = 6l)

Section–C

9. 8

(Hint: Let the number be 'x'.
According to condition, we have x – 6 = 2
By inspections, we have 8 – 6 = 2
∴ x = 8).

10. 8b – 32

(Hint: (21b + 7b – 20b) – 32
= b (21 + 7 – 20) – 32 = b (28 – 20) – 32 = b (8) – 32 = 8b – 32)

11. (a) The required expression is 2 x (x + 4)
(b) The required expression is 14x + 13x

Section–D

12. 8, 3, –4

(Hint: Given that x = 3
(i) x + 5 = 3 + 5 = 8
(ii) 2x – 3 = 2 x 3 – 3 = 6 – 3 = 3
(iii) x – 7 = 3 – 7 = – 4)

13. (a) 12 = x – 5 is an equation with a variable x.
(b) 2x > 7 is not an equation because it does not have '=' sign.
(c) $x^2 = 5$ is an equation with a variable x.
(d) 5 + 7 = 3 + 9 is not an equation because it has no variable.