Chapter-20

SUBSTITUTION

WORKSHEET

1. Evaluate:

(i) (23 – 15) + 4

(ii) 5x + (3x + 7x)

(iii) 6m – (4m – m)

(iv) (9a – 3a) + 4a

(v) 35b – (16b + 9b)

2. Simplify:

(i) 12x – (5x + 2x)

(ii) 10m + (4n – 3n) – 5n

(iii) (15b – 6b) – (8b + 4b)

(iv) – (- 4a – 8a)

(v) x – (x – y) – (- x + y)

3. Simplify:

(i) x – (y – z) + x + (y – z) + y – (z + x)

(ii) x – [y + {x – (y + x)}]

(iii) 4x + 3 (2x – 5y)

(iv) 2 (3a – b) – 5 (a – 3b)

(v) p + 2 $(q - \overline{r + p})$

4. Fill in the blanks:

(i) 2a + b – c = 2a + (……)

(ii) 3x – z + y = 3x – (……)

(iii) 6p – 5x + q = 6p – (…….)

(iv) a + b – c + d = a + (……..)

(v) 5a + 4b + 4x – 2c = 4x – (……)

5. Insert the bracket as indicated:

(i) x – 2y = – (……..)

(ii) m + n – p = – (……..)

(iii) a + 4b – 4c = a + (……..)

(iv) a – 3b + 5c = a – (……..)

(v) $x^2 – y^2 + z^2 = x^2 – (……)$

6. x – y – z = x – (……..)

7. $x^2 – xy^2 – 2xy – y^2 = x^2 – (……..)$

8. 4a – 9 + 2b – 6 = 4a – (……..)

9. $x^2 – y^2 + z^2 + 3x – 2y = x^2 – (……..)$

10. $-2a^2 + 4ab – 6a^2b^2 + 8ab^2 = -2a (……..)$

Simplify:

11. 2x – (x + 2y – z)

12. p + q – (p – q) + (2p – 3q)

13. 9x – (-4x + 5)

14. 6a – (- 5a – 8b) + (3a + b)

15. (p – 2q) – (3q – r)

16. 9a (2b – 3a + 7c)

17. – 5m (- 2m + 3n – 7p)

18. – 2x (x + y) + x^2

19. b (2b – 1/b) – 2b (b – 1/b)

20. 8 (2a + 3b – c) – 10 (a + 2b + 3c)

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