

# CHAPTER 8

## INTRODUCTION TO ALGEBRA

### More Questions for Practice

- Write the following statements using numbers, literal numbers and arithmetical operations, stating clearly what each number represents:
  - Selling price of an article is equal to the sum of its cost price and the profit earned.
  - The diameter of a circle is twice its radius.
  - The distance covered by a car is the product of its speed and the time taken.
- Write three *like terms* and three *unlike terms*.
- Determine which of the following are *monomials*:
  - $13x^2y$
  - $-5mn + p^2$
  - $5x^2 - 2x + 4$
  - $yz - 1$
  - $3abc$
- Write a *monomial expression*, a *binomial expression* and a *trinomial expression*.
- For each of the following terms, write one more term so that the two terms are *like terms*:
  - $-8xy$
  - $5x^2y$
  - $18y$
  - $-xyz$
- For each of the following terms, write one more term so that the two terms are *unlike terms*:
  - $5xy$
  - $-7x$
  - $x^3$
  - $3xyz$
- Write down the algebraic expression with the following terms:
  - $3a, -5b, c$
  - $5xy^2, -7x^2y, 3xyz$
  - $-7p^2q^2, -2p^2r^2, 7, 2p$
  - $2pq^2, 7qr^4, -p, 2$
- Express each of the following using literal numbers and operations:
  - If a car is running with a speed of  $x$  km per hour, how much distance will it cover in 2 hours?
  - A housewife spent ₹ 1,125 on buying cloth for her suit, ₹ 550 on its stitching and ₹  $x$  on its embroidery. What is the total money spent by her on her suit?
- Determine the degree of the polynomial:
  - $1 - 4x - x^2$
  - $x - 5y + xy - 2y^3$
  - $x^3y - 2xy^4 - 3xy - 4$
- Write a polynomial, involving two variable  $x$  and  $y$ , of:
  - degree 1
  - degree 2
  - degree 3.
- Construct a polynomial, involving three variable  $p, q$  and  $r$ , of:
  - degree 1
  - degree 2
  - degree 3.
- Find the 10th and 16th terms for each of the number patterns given by the following rule:
  - $T_n = 5n - 2$
  - $T_n = 4n + 3$ .

## ANSWERS

1. (a) S.P. = C.P. + P. (b)  $d = 2r$  (c)  $d = St$
2. Like terms— $7xy$ ,  $-2xy$  and  $xy$ ; Unlike terms— $3xy$ ,  $4xyz$  and  $-xz$  3. (a) and (e)
5. (a)  $5xy$  (b)  $-x^2y$  (c)  $-2y$  (d)  $3xyz$
6. (a)  $-3xy^2$  (b)  $-7y$  (c)  $2x^2$  (d)  $3x^2y^2z^2$
7. (a)  $3a - 5b + c$  (b)  $5xy^2 - 7x^2y + 3xyz$  (c)  $-7p^2q^2 - 2p^2r^2 + 2p + 7$   
(d)  $2pq^2 + 7qr^4 - p + 2$
8. (a)  $2x$  km (b) ₹ $(x + 1125 + 550)$
9. (a) 2 (b) 3 (c) 5
10. (a)  $2 - x - y$  (b)  $xy - 2$  (c)  $xy^2 - x^2y - x + y$
11. (a)  $1 - p - q + r$  (b)  $2 - pq + r$  (c)  $pqr - 4$
12. (a) 48; 78 (b) 43; 67.

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