INTERNATIONAL INDIAN SCHOOL
BURAIDAH

Worksheet For The Academic Year 2023-24

CLASS: VIII SUBJECT: Mathematics DATE: 20/12/2023

LESSON-14 Factorisation

1) Write the factors of : $3x^3y$, $27p^2q^2$, 42pqr and $7x^2y$
2) Find the common factors of:
   (i) 6xy and $8x^2y$ (ii) $90a^2xy$ and 81axy (iii) 2ab ,7ac and 9abc
3) Factorise:
   (i) 6a + 6b (ii) $8x^2 – 6x^2y$ (iii) $18a^2b^3c – 12abc + 24ab^2c^2$
   (iv) 5x + 5y – 5z (v) 3ay + 3az (vi) $25m^2n^3 – 5mn$
   (vii) 8xy – 5x + 8y – 5 (viii) 10xy – 5y + 8 – 16x
   (ix) $28x – 21y + 8x^2$- 6xy
4) Factorise using identities:
   (i) x^2+ 4x + 4 (ii) $x^2 – 6x + 9$ (iii) $x^2 – 16$ (iv) $64 – 9t^2$
   (v) $25x^2 – 20xy + 4y^2$ (vi) $\frac{a^2}{100} - \frac{c^2}{9}$
5) Factorise:
   (i) $X^2 + 20x + 91$ (ii) $x^2 + 7x + 6$ (iii) $x^2 + 7x – 30$
   (iv) $x^2 + 10x + 24$ (v) $x^2 + x – 56$ (vi) $x^2 – 6x – 40$
6) Divide:
   (i) $24a^4b^3c^2$ by $72a^2bc$ (ii) $4p^2q^4r^3$ by 12pqr (iii) $36x^5y^2z^3$ by $48x^3z$
   (iv) ($6x^3 + 8x^2 + 4x$) by 2x (v) ($4p^8 – 6p^6 + 5p^4$) by p^4
7) Simplify:
   (i) 6(4x – 8y) ÷ 3(x – 2y) (ii) x^2 (x + 1) (x + 2) (x + 3) ÷ x(x + 2)
   (iii) $12x^2(49x^2 – 64y^2) ÷ 6x (7x + 8y)$ (iv) $(x^2 + 4x – 12) ÷ (x – 2)$
   (v) $(4x^2 – 121y^2) ÷ (2x + 11y)$ (vi) $(3x^2 + 4x – 7) ÷ (3x + 7)$
   (vii) $(6x^2 + x – 2) ÷ (2x – 1)$

ANSWERS

2) (i) $2xy$ (ii) $9axy$ (iii) a

3) (i) $6(a+b)$ (ii) $2x^2(4 - 3y)$ (iii) $6abc(3ab^2 - 2 + 4bc)$

(iv) $5(x + y - z)$ (v) $3a(y + z)$ (vi) $5mn(5mn^2 - 1)$ (vii) $(8y - 5)(x + 1)$

(viii) $(2x - 1)(5y - 8)$ (ix) $(4x - 3y)(7 + 2x)$

4) (i) $(x + 2)(x + 2)$ (ii) $(x - 3)(x - 3)$ (iii) $(x - 4)(x - 4)$ (iv) $(8 + 3t)(8 - 3t)$

(v) $(5x - 2y)(5x - 2y)$ (vi) $(\frac{d}{10} + \frac{e}{3})(\frac{d}{10} - \frac{e}{3})$

5) (i) $(x + 7)(x + 13)$ (ii) $(x + 1)(x + 6)$ (iii) $(x + 10)(x - 3)$ (iv) $(x + 4)(x + 6)$

(v) $(x - 7)(x + 8)$ (vi) $(x - 10)(x + 4)$

6) (i) $\frac{1}{3}a^2b^2c$ (ii) $\frac{1}{3}pq^3r^2$ (ii) $\frac{3}{4}x^2y^2z^2$ (iv) $3x^2 + 4x + 2$ (v) $4p^4 - 6p^2 + 5$

7) (i) 8 (ii) $x(x + 1)(x + 3)$ (iii) $x(7x - 8y)$ (iv) $(x + 6)$ (v) $(2x - 11y)$

(vi) $(x - 1)$ (vii) $(3x + 2)$