PRACTICE QUESTIONS
CLASS VIII: CHAPTER - 14
FACTORISATION

Q1: Factorize $10x^2 - 18x^3 + 14x^4$

Q2: Factorize: (i) $12x + 36$ (ii) $22y - 33z$ (iii) $14pq + 35pqr$

Q3: Factorize $6xy - 4y + 6 - 9x$.

Q4: Factorize $x^2 + 8x + 16$

Q5: Factorize $4y^2 - 12y + 9$

Q6: Factorize $49p^2 - 36$

Q7: Factorize $a^2 - 2ab + b^2 - c^2$

Q8: Factorize $m^4 - 256$

Q9: Factorize $x^2 + 5x + 6$

Q10: Find the factors of $y^2 - 7y + 12$.

Q11: Obtain the factors of $z^2 - 4z - 12$.

Q12: Find the factors of $3m^2 + 9m + 6$.

Q13: Do the following divisions. (i) $-20x^4 \div 10x^2$ (ii) $7x^2y^2z^2 \div 14xyz$

Q14: Divide $24(x^2yz + xy^2z + xyz^2)$ by $8xyz$

Q15: Divide $44(x^4 - 5x^3 - 24x^2)$ by $11x\ (x - 8)$

Q16: Divide $[z\ (5z^2 - 80)$ by $5z\ (z + 4)]$

Q17: Factorize the expressions and divide them as directed.

(i) $(y^2 + 7y + 10) \div (y + 5)$
(ii) $(m^2 - 14m - 32) \div (m + 2)$
(iii) $(5p^2 - 25p + 20) \div (p - 1)$
(iv) $4yz\ (z^2 + 6z - 16) \div (4y\ (z + 8))$
(v) $12xy\ (9x^2 - 16y^2) \div (4xy\ (3x + 4y)$
(vi) $39y^3(50y^2 - 98) \div 26y^2(5y + 7)$

Q18: Divide as directed.
(i) $5(2x + 1)\ (3x + 5) \div (2x + 1)$
(ii) $26xy\ (x + 5)\ (y - 4) \div (13x\ (y - 4))$

(iii) $52pqr\,(p + q)\,(q + r)\,(r + p) \div (104pq\,(q + r)\,(r + p))$

(iv) $20(y + 4)\,(y2 + 5y + 3) \div (5(y + 4))$

(v) $x\,(x + 1)\,(x + 2)\,(x + 3) \div x\,(x + 1)$

Q19: Find and correct the errors in the following mathematical statements.

(i). $4(x – 5) = 4x – 5$
(ii). $x + 2x + 3x = 5x$
(iii). $5y + 2y + y – 7y = 0$
(iv). $(a – 4)\,(a – 2) = a^2 – 8$
(v). $(a + 4)\,(a + 2) = a^2 + 8$

Q20: Factorize the following expressions:

1) $9x^2 + 12xy$

2) $18x^2y – 24xyz$

3) $27a^3b^3 – 45a^4b^2$

4) $2a\,(x + y) – 3b\,(x + y)$

5) $2x\,(p^2 + q^2) + 4y\,(p^2 + q^2)$

6) $x\,(a – 5) + y\,(5 – a)$

7) $4(a + b) – 6(a + b)^2$

8) $8(3a – 2b)^2 – 10(3a – 2b)$

9) $x\,(x + y)^3 – 3x^2y\,(x + y)$

10) $x^3 + 2x^2 + 5x + 10$

11) $x^2 + xy – 2xz – 2yz$

12) $a^3b – a^2b + 5ab – 5b$

13) $8 – 4a – 2a^3 + a^4$

14) $x^3 – 2x^2y + 3xy^2 – 6y^3$

15) $px – 5q + pq – 5x$

16) $x^2 + y – xy – x$

17) $(3a – 1)^2 – 6a + 2$

18) $(2x – 3)^2 – 8x + 12$

19) $a^3 + a – 3a^2 – 3$

20) $3ax – 6ay – 8by + 4bx$

21) $abx^2 + a^2x + b^2x + ab$

22) $x^3 - x^2 + ax + x - a - 12$

23) $2x + 4y - 8xy - 1$

24) $ab(x^2 + y^2) - xy(a^2 + b^2)$

25) $a^2 + ab(b + 1) + b^3$