Assignment Class 8 for Factorization 3 Questions Exam Paper (For CBSE, ICSE, IAS, NET, NRA 2022)

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Question 1

Factor the given expressions using identify:

$(x+y)^2 = x^2 + y^2 + \text{xy}$

$(x+y)^2 = x^2 + y^2 - 2\,\text{xy}$

$x^2 - y^2 = (x-y)(x+y)$

(i) $p^2 + 6p + 9$

(ii) $4z^2 - 4z + 1$

(iii) $4p^2 + 9p^2 + 12p^2q^2$

(iv) $\left(a^4 - 8a^2b^2 + 16b^4 - 81\right)$

(v) $625 - x^2 - 2\text{xy} - y^2$

Question 2

Divide as directed

(i) $5(x+1)(2x+5) \div (2x+5)$

(ii) $39x(x+5)(y-2) \div 13x(y-2)$

(iii) $12\,\text{pq}(p+q)(q+r)(r+p) \div 6\,\text{pq}(q+r)(r+p)$

(iv) $60(y-4)\left(y^2 + 5y + 3\right) \div 5(y-4)$

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

Question 3

Factorize the expressions.

(i) $\text{px}^2 + \text{qx}$

(ii) $7x^2 + 21y^2$

(iii) $2x^3 + 2\,xy^2 + 2\,xz^2$

(iv) $ap^2 + bq^2 + bq^2 + aq^2$

(v) $nm + n^2 + m + n$

(vi) $y\,(y - z) + 16\,(y - z)$

(vii) $5y^2 - 20y - 8z + 2\,yz$

(viii) $10xy + 4x + 5y + 2$

(ix) $6xy - 4y + 6 - 9x$

Question 4

Factor completely using the formula:

(i) $576 - p^2 + 8pq - 16q^2$

(ii) $25x^2 - (y + z)^2$

(iii) $4p^2 - 4q - 3$

(iv) $81 - x^2 - y^2 - 2\,xy$

(v) $121 - x^2 - y^2 - 2\,xy$

Question 5

Factorize the expressions.

(i) $4p^2 - 12ab + 9b^2$

(ii) $36p^2 - 84pq + 49q^2$

(iii) $4a^8 - b^8$

(iv) $(z - 1)^2 + 2\,(z - 1)\,(2z + 3) + (2z + 3)^2$

(v) $p^2 - 9q^2$