

INTERNATIONAL INDIAN SCHOOL, RIYADH

WORK SHEET - SA2 2012-2013

VIII - MATHEMATICS

FACTORISATION OF ALGEBRAIC EXPRESSIONS

1) Find the highest factors of the monomials

(a) $6a^2b^2c$ and $27abc^3$

(b) $5a^2$, $-25a^4$ and $100a$

(c) $11abc^3$, $13a^2b^2c$ and $17abc$

(d) x^3y^2 and $-7x^2$

2) Factorise :

(a) $25a^2 - b^2$

(r) $x^2 - 7x - 44$

(b) $49 - 36p^2$

(s) $a^2 - a - 56$

(c) $4a^2 - 8a + 4$

(3) Divide:

(d) $\left(\frac{1}{9}x\right)^2 - \frac{2}{3}x + 1$

(i) $(7x^2 + 14x) \div (x + 2)$

(e) $9m^2 + 4n^2 + 12mn$

(ii) $(m^2 + 21m - 46) \div (m - 2)$

(f) $(x + 2y)^2 - 1$

(iii) $(x^2 + 4x - 21) \div (x - 3)$

(g) $48y^3 - 147y$

(iv) $(2x^2 + 11x + 5) \div (2x + 1)$

(h) $p^2 - 17p + 72$

(v) $52y^3(72y^2 - 98) \div 117y^2(6y - 7)$

(i) $m^2 + 18m + 77$

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

(vi) $18xy(49x^2 - 64y^2) \div 9xy(7x + 8y)$

(k) $(m + 2n)^2 - 16m^2$

(l) $(x + y)^3 - 16(x + y)$

(4) Find and correct the errors in the following mathematical statements:

(m) $25x^2 + 30x + 9$

(n) $x^2 + 2 + \frac{1}{x^2}$

(i) $3(x - 4) = 3x - 4$

(o) $a^2x^2 - 20axb + b^2$

(ii) $\frac{8x^2 + 1}{8x^2} = 1 + 1 = 2$

(p) $25 - 4x^2 - 12xy - 9y^2$

(iii) $(x - 5)^2 = x^2 - 25$

(q) $x^2 - 7x + 12$

(iv) $\frac{4x}{4x + 2} = \frac{1}{2}$

(v) $(a - 7)(a - 3) = a^2 - 21$