WORK SHEET – SA2

VIII – MATHEMATICS

FACTORISATION OF ALGEBEREIC EXPRESSION

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) $25a^2 - b^2$

(b) $49 - 36p^2$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3) Divide

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

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

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

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

4) Find the highest common factor of the monomials

(a) 3abc

(b) 5a

(c) 1abc

(d) x^2

5) Factorise

a) (5a + b) (5a – b)

b) (5m + 2n) ($-3m + 2n$)

c) $x + y\,[x + y + 4][x + y - 4]$

d) (7+6p)(7−6p)

e) (5x +3) (5x+3)

f) (2a−2)$(2a - 2)$

g) $\left(\frac{1}{3}x - 1\right)\left(\frac{1}{3}x - 1\right)$

h) $\left(x + \frac{1}{x}\right)\left(x + \frac{1}{x}\right)$

i) $(3m + 2n)(3m + 2n)$

j) $(ax + b)\,(ax + b)$

k) x+2y−1

l) $3y\big((4y + 7)(4y - 7)\big)$

m) $(-3 + x)(-4 + x)$

n) $(p + (-8))(p-9)$

o) $(x-11)(x + 4)$

p) $(m+7)(m+4)$

q) $(a-8)(a + 7)$

r) $(2y+3)(2-3x)$

6) Divide

1) $3x$

2) $(x+7)$

3) $(m + 23)$