

## National 5 Homework : 1 year course

### Algebraic Skills

1. Remove the brackets:

(a)  $2(x+5)$       (b)  $y(a-y)$       (c)  $2x(3x-5y)$       (d)  $c^2(c^2+c-4)$

2. Simplify the following expressions:

(a)  $3(2c+d)-2d$       (b)  $5p(p-2)-4p(p-6)$

3. Multiply out the brackets then simplify the following expressions:

(a)  $(x+3)(x+2)$       (b)  $(a-1)(a+3)$       (c)  $(x-2)^2$       (d)  $(5x-1)(4x+7)$   
(e)  $(3p-1)(2p+3)-2p$       (f)  $(x-2)(4x^2-3x+2)$

4. Factorise the following expressions **completely**:

(a)  $6a+3b$       (c)  $4-x^2$       (d)  $t^2+6t-16$       (e)  $h^2-13h+36$   
(g)  $4a^2+4a+1$       (h)  $3d^2-4d-4$       (j)  $4x^3-10x^2-6x$

5. Complete the square for:

(a)  $x^2+8x$       (b)  $t^2+6t-1$       (c)  $4d^2-16d+3$