

# Algebra

1)

Simplify the following expressions :-

(a)  $x + x$

(b)  $a \times a$

(c)  $9p \times p$

(d)  $6p \times 7q$

(e)  $6e + 3 - 5e$

(f)  $x^2 + 7x^2$

(g)  $x^2 \times 7x^2$

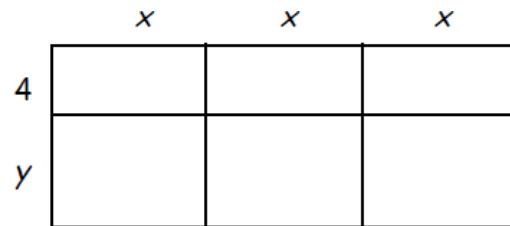
(h)  $6 - 5m + 9m$

2)

For the rectangular shape, write down an expression for the :-

(a) total perimeter

(b) total area



3)

Remove the brackets :-

(a)  $3(6 + 2x)$

(b)  $8(5 - 6n)$

(c)  $6v(4 + 8v)$

(d)  $m(m - n + 4p)$

(e)  $-3(2 + w)$

(f)  $-u(1 + u)$

(g)  $-a(2a - 3b)$

(h)  $-2k(5k - 2p)$

4)

Remove the brackets and simplify :-

(a)  $2(x + 1) + 4$

(b)  $6a + 4(a - 5)$

(c)  $12 + 5(p - 2)$

(d)  $3(c - 1) + 2(c + 4)$

(e)  $9(x + 1) - 4(x - 1)$

(f)  $7q - 2(2 - 2q)$

5)

Given  $x = 2$ ,  $y = 3$ ,  $z = 5$  and  $w = -3$ , find :-

(a)  $6y + 5w$

(b)  $1 + 2y^2$

(c)  $4x^2 + y^2 - 4w$

(d)  $\frac{3}{4}(9y + z)$

(e)  $\frac{y^2 - x^2}{z}$

(f)  $\frac{7w^2 + 7}{xz}$

6)

Factorise fully :-

(a)  $6x - 24$

(b)  $35w - 5$

(c)  $20a + 25b$

(d)  $12m + 18n$

(e)  $12h - h^2$

(f)  $6kp - 8pd$

(g)  $4q^2 - 12qr$

(h)  $6m^3 - 18m$