

## EXERCISE 9 – Test Your Algebra Skills

<u>SIMPLIFY</u>	16) $2x(x-8) - 5(4-3x) =$
1) $7p + 3p - 2p =$	17) $(3x-5)(x-4) =$
2) $-7p + 2p =$	18) $(5x-3)(5x+3) =$
3) $2x - 5y - 8x + y =$	<u>FACTORISE</u>
4) $6x + 5x^2 + 2x + 3x^2 =$	19) $6x - 18 =$
5) $6x - 12 =$	20) $2x^2 + 8x =$
6) $2p \times 7q =$	21) $2xa + 2xb =$
7) $3a \times b \times 6c =$	22) $2a^2b - 6ab =$
8) $5m \times -6p \times 4 =$	23) $a(x+6) + b(x+6) =$
9) $12x \div 4x =$	24) $x^2 + 8x + 12 =$
10) $8xy \div 6y =$	<u>SUBSTITUTE</u> - $a=4, b=-3, c=10$ into..
11) $2a^2b \div 6ab =$	25) $b \div c - 8 =$
<u>PAND</u>	26) $2a + b =$
12) $x(x+3) =$	27) $a - 3b \times c =$
13) $-7a(b-2a) =$	28) $c^2 - 5b =$
14) $\frac{1}{2}(6a+8b) =$	29) $b - 2a^2 =$
15) $5(x+3) - 4(x-4) =$	30) $abc - (a+b+c) =$

### Exercise 9 – Answers

1.  $8p$       2.  $-5p$       3.  $-6x-4y$       4.  $8x^2+8x$   
 5.  $6x-12$       6.  $14pq$       7.  $18abc$       8.  $-120mp$   
 9.  $3$       10.  $\frac{4x}{3}$       11.  $\frac{a}{3}$       12.  $x^2+3x$   
 13.  $-7ab+14a^2$       14.  $3a+4b$       15.  $x+31$   
 16.  $2x^2-x-20$       17.  $3x^2-17x+20$       18.  $25x^2-9$

19.  $6(x-3)$       20.  $2x(x+4)$       21.  $2x(a+b)$   
 22.  $2ab(a-3)$       23.  $(a+b)(x+6)$       24.  $(x+2)(x+6)$   
 25.  $-1$       26.  $5$       27.  $94$   
 28.  $115$       29.  $-35$       30.  $-131$

## EXERCISE 8 – Simplify & Substitution into Formula

1. Simplify the following expressions:

(a)  $8p - 3p + 2p =$

(b)  $8x - 5x - 2x =$

(c)  $5a + 3b + 6a - 4b =$

(d)  $2y - 5y + 8y - y =$

(e)  $4a + 3b =$

(f)  $-7p + 2p =$

(g)  $-6d - d =$

(h)  $5k + 3n - 2k - 7n =$

(i)  $3g - 8h - 7h + 2 =$

(j)  $6x + 5x^2 + 2x + 3x^2 =$

(k)  $ab - 5b^2 + ba + 3b^2 =$

(l)  $6x - 5x^2 - 2x - 3x^2 =$

(m)  $2ab - ab^2 - ba + b^2 a =$

(n)  $2p \times 7q =$

(o)  $3a \times b \times 6c =$

(p)  $-8 \times 2p =$

(q)  $-2 \times -6b =$

(r)  $5m \times -6p \times 4 =$

(s)  $5x \times -6x \times 4 =$

(t)  $5y \times -6y \times -y =$

(u)  $8a \div 4 =$

(v)  $8a \div 2a =$

(w)  $xy \div x =$

(x)  $3x \div 6 =$

(y)  $8abc \div 12b =$

2. If  $a = -4$ ,  $b = 3$  &  $h = 6$

find:

(a)  $A = b \times h$

$= ( ) \times ( )$

$=$

(b)  $A = \frac{1}{2} bh$

$= \frac{1}{2} \times ( ) \times ( )$

$=$

(c)  $V = h + 10b$

$= ( ) + 10 \times ( )$

$=$

(d)  $V = b^2 \times h$

$= ( )^2 \times ( )$

$=$

(e)  $A = \frac{1}{2} [a + b] \times h$

$= \frac{1}{2} \times [( ) + ( )] \times ( )$

$=$

(f)  $F = 5a + 3b - 4h$

$= 5 \times ( ) + 3 \times ( ) - 4 \times ( )$

$=$

(g)  $P = \frac{a \cdot b}{h}$

$= \frac{( ) \times ( )}{( )}$

$=$

### Exercise 8 – Answers

- Q1:
- |                   |                |                 |                |
|-------------------|----------------|-----------------|----------------|
| a) $7p$           | b) $x$         | c) $11a - b$    | d) $4y$        |
| e) $4a + 3b$      | f) $-5p$       | g) $-7d$        | h) $3k - 4n$   |
| i) $3g - 15h + 2$ | j) $8x^2 + 8x$ | k) $2ab - 2b^2$ | l) $4x - 8x^2$ |
| m) $ab$           | n) $14pq$      | o) $18abc$      | p) $-16p$      |
| q) $12b$          | r) $-120mp$    | s) $-120x^2$    | t) $30y^3$     |

- |                    |          |         |                  |
|--------------------|----------|---------|------------------|
| u) $2a$            | v) $4$   | w) $y$  | x) $\frac{x}{2}$ |
| y) $\frac{2}{3}ac$ |          |         |                  |
| Q2:                |          |         |                  |
| a) $18$            | b) $9$   | c) $36$ | d) $54$          |
| e) $-3$            | f) $-35$ |         | g) $-2$          |