

Substitution into formulas and expressions (solutions)

1. Use $a = 3$, $b = 2$ and $c = 7$ to work out the value of

(a) $a + b + c$	(b) abc	(c) $bc - a$	(d) $a^2 + b$
12	42	11	11

2. Use $a = 6$, $b = 2$ and $c = 5$ to work out the value of

(a) $\frac{3a+b}{c}$	(b) $\frac{ac}{b}$	(c) $\frac{a+2b+c}{3}$	(d) $\frac{a^2+b^2}{c}$
4	15	5	8

3. Use $a = 1$, $b = 4$ and $c = 6$ to work out the value of P if

(a) $P = 2(a + b)$	(b) $P = \frac{1}{2}bc$	(c) $P = b(c - a)$	(d) $P = a^2 - b$
10	12	20	-3

4. Use $a = 2$, $b = -3$ and $c = 8$ to work out the value of

(a) $a + b + c$	(b) ab	(c) $ac - b$	(d) $a^2 + b^2$
7	-6	19	13

5. Use $a = 5$, $b = -2$ and $c = -7$ to work out the value of

(a) $a + b + c$	(b) abc	(c) $a + b - c$	(d) $ab - c$
-4	70	10	-3

6. Use $a = 6$, $b = 3$ and $c = -2$ to work out the value of P if

(a) $P = 2(ab + c)$	(b) $P = \frac{1}{3}bc^2$	(c) $P = \frac{b-c}{ab-c}$	(d) $P = a^2 - c^3$
32	4	$\frac{1}{4}$	44

7. Use $a = 4$, $b = -1$ and $c = -9$ to work out the value of

(a) ab^2c	(b) $(a + b)c$	(c) $a(c - b)$	(d) $\frac{c^2-b^2}{a}$
-36	-27	-32	20

8. In each part use $a = 4$, $b = -1$ and $c = -9$ to work out the value of each expression.

The values in each part are terms of a sequence – use the pattern to write down the next term of the sequence.

(a)

$a + b$	$a - b$	$2a + b$	bc	$3a + b$	Next term
3	5	7	9	11	13

(b)

$2a$	$a - c$	$\frac{1}{2}abc$	$6a + b$	$a(2b - c)$	Next term
8	13	18	23	28	33

(c)

abc	$a(b - c)$	$b^2 - 3c$	$a^2 + b - c$	$\frac{1}{5}(b + c)^2$	Next term
36	32	28	24	20	16

(d)

b^2	$a + b$	$b(c + 3)$	$b^2 + bc$	$a - 2b - c$	Next term
1	3	6	10	15	21

(e)

$2b^2$	$\frac{bc}{a + b}$	$b(a + c)$	$b(c - b)$	$b^2(a - c)$	Next term
2	3	5	8	13	21