Level 5 Practice Worksheet 18

SUBSTITUTION

Question 1

A formula for finding the perimeter of a triangle is P = a + b + c. Find P if:

a)	a = 5, b = 2, c = 9	b)	a = 10, b = 6, c = 8	c)	a = 1, b = 5, c = 6
d)	a = 10, b = 12, c = 12	e)	a = b = 5, c = 16	f)	a = b = c = 17
g)	a = 6, b = a + 1, c = 8	h)	a = 1.1, b = 2.4, c = 3.1	i)	a = 0.9, b = 1.7, c = 2.8
j)	a = 0.07, b = 0.15, c = 0.4	k)	a = b – 1, b = 4.5, c = b + 1	l)	a = k + 1, b = c = k = 8

Question 2

A formula for finding the perimeter of a rectangle is P = 2a + 2b. Find P if:

a)	a = 7, b = 10	b)	a = 14, b = 16	c)	a = 8, b = 4
d)	a = 13, b = 9	e)	a = b = 7	f)	a = b = 19
g)	a = 3, b = a + 1	h)	a = 1.8, b = 2.1	i)	a = 4.9, b = 7
j)	a = 0.22, b = 0.05	k)	a = b – 1, b = 3.7	l)	a = k – 2, b = k = 14

Question 3

A formula for finding the area of a triangle is A = ½ × b × h. Find A if:

a)	b = 10, h = 9	b)	b = 16, h = 18	c)	b = 20, h = 11
d)	b = 14, h = 14	e)	b = h = 6	f)	b = h = 7
g)	b = 18, h = b – 1	h)	b = 1.2, h = 1.4	i)	b = 0.8, h = 1.9
j)	b = 0.82, h = 0.09	k)	b = h – 5, h = 7.5	l)	b = k – 3, h = k + 1 = 10

Question 4

A formula for finding the area of a trapezium is A = ½ × (a + b) × h. Find A if:

a)	a = 4, b = 6, h = 5	b)	a = 10, b = 12, h = 7	c)	a = 16, b = 22, h = 12
d)	a = 12, b = 13, h = 15	e)	a = 10, b = h = 8	f)	a = 17, b = h = 11
g)	a = b + 2, b = 10, h = b – 2	h)	a = 1.8, b = 2, h = 1.6	i)	a = 1.5, b = 0.9, h = 1.8
j)	a = 0.88, b = 0.8, h = 0.15	k)	a = b + 1, b = h – 3, h = 7.2	l)	b = k + 3, a = h = k + 2 = 10

Question 5

A formula for finding the surface area of a cube is $S = 6a^2$. Remember to use BIDMAS and find S if:

a)	a = 2	b)	a = 9	c)	a = 12	d)	a = 11	e)	a = 10
f)	a = 7	g)	a = 3	h)	a = 17	i)	a = 22	j)	a = 25
k)	a = 4.5	l)	a = 3.5	m)	a = 7.2	n)	a = 10.1	o)	a = 0.1

Question 6

Complete the table below if the values for a, b, c and d remain the same across a row:

a	b	c	d	a + b	b + 2c	3c + 2d	4(a + c)	$(d - b)^2$	$10 - c^2$
1	2	3	4						
2	5	6	10						
3	6	7	8						
2	5	5	11						
6	13	17	20						
5	15	25	40						
80	100	120	150						
45	65	25	145						
33	44	67	86						
1.5	2.5	7	10						
	0.25	0.25	0.5	0.75					
	0.2	0.8	0.9	0.3					
	0.4	0.4	0.4	0.8					
	15.9	15.8	15.7	31.9					
	100	400	500	400					
		7.2	9.9	7.6	15.7				
		399	502	728	1180				
		201	344	779	977				
			345	1356	1279	2057			
			999	777	1332	2997			
					5.02	8.03	16.04	1	9.9999
					19	39	28	16	-39
					-4	-3	12	4	9
					0	0	0	0	10