

Substitution

Question 1

$$C = 5a + 4d$$

Work out the value of C when $a = -3$ and $d = 6$

$$C = \dots\dots\dots$$

(2 marks)

Question 2

$$v^2 = u^2 + 2as$$

$$u = 12 \quad a = -3 \quad s = 18$$

Work out a value of v .

$$v = \pm \dots\dots\dots$$

(2 marks)

Question 3

$$E = n^2 + n + 5$$

Ali thinks that the value of E will be a prime number for any whole number value of n .

Find an example that makes Ali incorrect.

(2 marks)

Question 4

$$M = 3x^2 - nx$$

Work out the value of M when $x = -2$ and $n = 5$

$$M = \dots\dots\dots$$

(2 marks)

Question 5

$$P = 4r - 3q$$

Work out the value of P when $r = -7$ and $q = 5$

$$P = \dots\dots\dots$$

(2 marks)

Question 6

Work out the value of $y^2 - 3y$ when $y = -5$

$$\dots\dots\dots$$

(2 marks)

Question 7

$$w = 4x - 5y$$

$$x = 7, y = 4$$

Work out the value of w .

$$w = \dots\dots\dots$$

(2 marks)

Question 8

$$p = 2e + 3g$$

$$e = 6.5g = 2$$

Work out the value of p .

$$p = \dots\dots\dots$$

(2 marks)

Question 9

$$y = p - 2qx^2$$

$p = -10$

$q = 3$

$x = -5$

Work out the value of y .

$y = \dots\dots\dots$

(2 marks)

Question 10

$$t = 4(p - q)$$

$t = 18$

$q = 6$

Work out the value of p

.....

(2 marks)

Question 11

$$a = -5b = -2$$

Work out the value of $2a^2 + 6b$

.....

(2 marks)

Question 12

The body mass index, B , for a person of mass m kg and height h metres is given by the formula

$$B = \frac{m}{h^2}$$

Tom's height is 1.80 m.

He wants his body mass index to be 21

(b) Work out the mass that will give Tom a body mass index of 21

..... kg

(2 marks)