Topic 1 Algebra 1 (Pre-TT) [25]

1.

Simplify $2x + 8 + 4x - 3$

(2)
(Total 2 marks)

2.

$Q = 2c + 5d$

Work out the value of Q when $c = 3$ and $d = -4$.

(Total 2 marks)

3.

Expand and simplify

$$5(2x + 1) - 3(x - 4)$$

(Total 2 marks)

4.

Choose the correct word from the list to describe the following.

Equation	Formula	Identity	Expression	Inequality

(a) $2x + 6$ **(1)**

(b) $2y + 7 = 18$ **(1)**

(c) $A = \pi r^2$ **(1)**

(Total 3 marks)

5.

Multiply out and simplify $(2p - 5q)(3p + q)$

(Total 3 marks)

6.

$V = 3b + 2b^2$

Find the value of V when $b = -4$

(Total 2 marks)

7.

Show that

$$(3x - 1)(x + 5)(4x - 3) = 12x^3 + 47x^2 - 62x + 15$$

for all values of x.

(Total 3 marks)

8.

Factorise $2x + 6$

(1)
(Total 1 marks)

9. Non-calculator

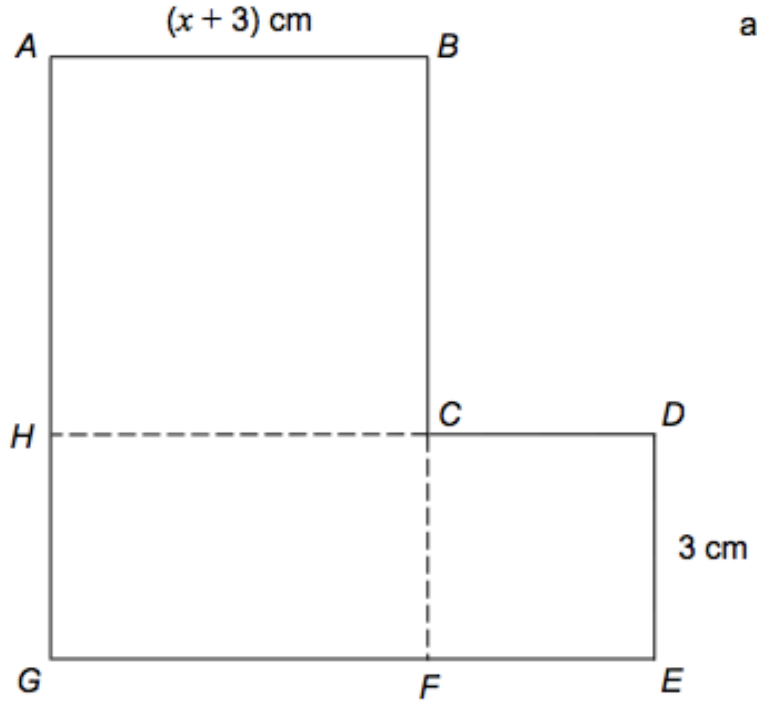
ABCH is a square.

HCFG is a rectangle.

CDEF is a square.

They are joined to make an L-shape.

Not drawn accurately



Show that the total area of the L-shape, in cm^2, is $x^2 + 9x + 27$

[4 marks]

10.

Factorise completely the following expressions

(i) $2a^2 + a$

(1)

(ii) $8x^3y^2 - 4xy^3$

(2)

(Total 3 marks)