Algebraic representation and formulae – 2020 O Level Math D

1. Nov/2020/Paper_11/No.2

(a) Factorise $4p^2 - 1$.

..... [1]

(b) Factorise $10xy - 12 + 15x - 8y$.

..... [2]

2. Nov/2020/Paper_11/No.18

Some numbers are arranged in rows.
Each row contains one more number than the previous row.
The numbers in each row are two more than the numbers in the previous row.

Row 1	3	3			
Row 2	5	5	5		
Row 3	7	7	7	7	
Row 4	9	9	9	9	9
Row 5					

(a) Complete Row 5. [1]

(b) Write down an expression, in terms of n, for each number in Row n.

..... [1]

(c) Write down an expression, in terms of n, for the number of numbers in Row n.

..... [1]

(d) Write down an expression, in terms of n, for the sum of the numbers in Row n.

..... [1]

3. Nov/2020/Paper_12/No.3

Factorise.

(a) $12t^2 - 4t$

..... [1]

(b) $a(x-y)+b(y-x)$

..... [1]

(c) $x^2 - 2x - 3$

..... [1]

4. Nov/2020/Paper_12/No.9

(a) Simplify $3(3a-4)+2(2-a)$.

..... [2]

(b) Given that $4x = 3y$, find the numerical value of $\frac{8x+y}{y}$.

..... [1]

5. Nov/2020/Paper_22/No.5

(a) Gita has n stamps.
Ravi has twice as many stamps as Gita.
Sanjay has 7 fewer stamps than Ravi.

Altogether, the three children have 108 stamps.

Form an equation in n and solve it to find the number of stamps Sanjay has.

..... [3]

(b) Simplify $\frac{6t^2v^3}{5} \div \frac{3t^2}{v^2}$.

..... [2]

(c) Simplify $\frac{x^2-16}{3x^2+10x-8}$.

..... [3]

6. June/2020/Paper_12/No.7

Factorise $15a - 5x - 2xy + 6ay$.

..... [2]

7. June/2020/Paper_21/No.3a

(a) Rearrange $m = 4n - 3$ to make n the subject.

$n =$ ..... [2]

8. June/2020/Paper_22/No.2a

(a) The length of a rectangle is 6 cm more than its width, w cm.
The perimeter of the rectangle is 37 cm.

Form an equation in w and solve it to find the width of the rectangle.

$w =$ ..... cm [3]