S.3 MATHEMATICS

Qtn.16 a) Draw the of the function $y = 2x^2 + 4x - 3$ for $^-4 \leq x \leq 2$ and use the graph to estimate the roots of the equation $2x^2 + 4x - 3 = 0$

b) (i) use your graph in (a) above, solve the equation $2x^2 + x - 5 = 0$

(ii) find the values of x by which $2x^2 + 4x - 3$ is negative

(iii) determine the line from which the curve in (a) above is symmetrical.

(iv) find the minimum value of y and the value of x at which this minimum occurs

Qtn.17 a) Draw the graph of $y = -x^2 + x + 6$ for $^-4 \leq x \leq 5$ and on the same axes, draw a graph of $y = 2 - 2x$.

b) Write down and simplify a quadratic equation which is satisfied by the values of x where the two graphs intersect.

c) Find the values of x for which $y = 6 + x - x^2$ is positive

Qtn.18 a) Find the value of ab if $a^2 + b^2 = 34$ and $a + b = 8$.

b) A function f is defined by the function $f(x) = x^2 + 6$ and $g(x)$ is another function of x such that $g(x) = \dfrac{f(x) - f(4)}{x - 4}$.

Find; (i) $g(^-4)$ (ii) $g^{-1}(5)$

c) compute the range of the function $f(x) = x^2 - 4x + 3$ for which the domain is $\{-2, -1, 0, 1, 2, 3\}$