

**SPM Past Year Questions Chapter 3 : Quadratic Function**

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**SPM Past Year Questions Form 4 Chapter 3 – Quadratic Function**

SPM 1993

1a) Given that  $x = \frac{4-y}{2}$ , find the range of values of  $x$  if  $y > 10$

b) Find the range of values of  $x$  if  $x^2 - 2x \leq 3$ .

(4 marks)

2 Given the quadratic function  $f(x) = 6x - 1 - 3x^2$ .

a) Express the quadratic function  $f(x)$  in the form of  $k + m(x + n)^2$ , with  $k$ ,  $m$  and  $n$  are constants. Determine whether the function  $f(x)$  has maximum or minimum value and state its value.

b) Sketch the graph of function  $f(x)$

c) Find the range of values of  $p$  such that the equation  $6x - 4 - 3x^2 = p$  has two different roots

(10 marks)

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3. Find the range of values of  $x$  if  $5x \leq x^2$ .

(2 marks)

4) In the given diagram, point  $(2,3)$  is the turning point of the graph with the equation in the form of  $y = p(x+h)^2 + k$ . Find

a) the values of  $p$ ,  $h$  and  $k$

(3 marks)

b) the equation of the curve obtained when the graph shown is reflected at the  $x$ -axis. (2 marks)

