

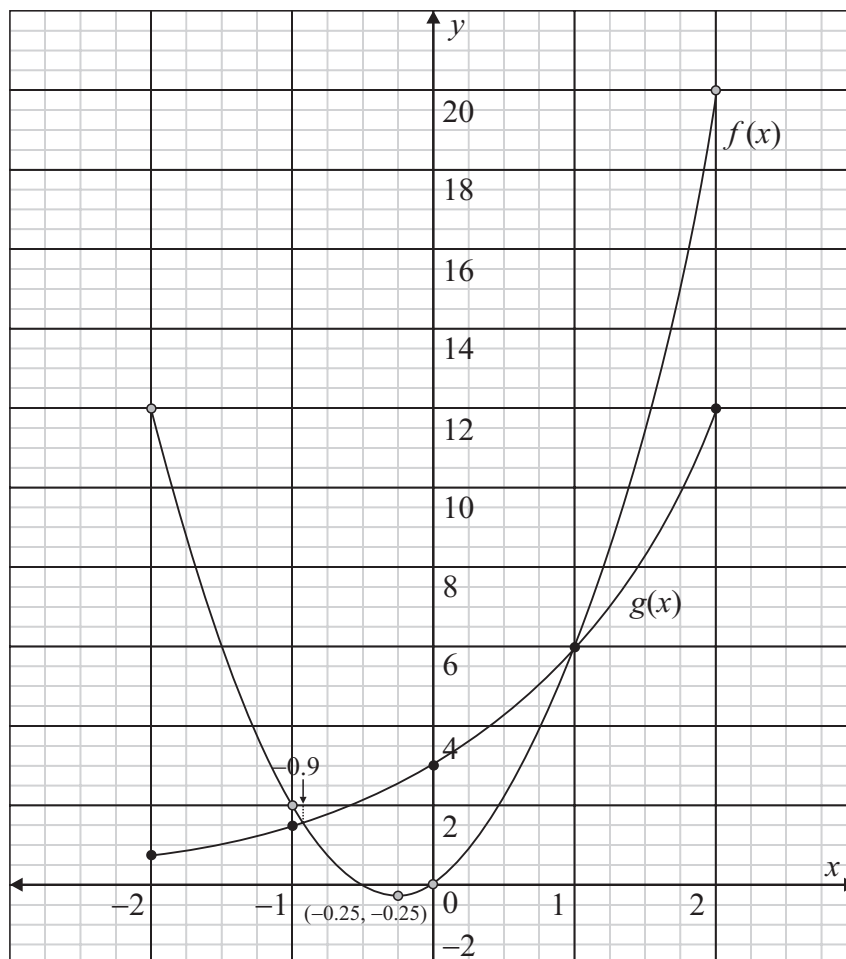
SAMPLE PAPER 6: PAPER 1

QUESTION 6 (25 MARKS)

Question 6 (a)

x	-2	-1	0	1	2
$f(x)$	12	2	0	6	20
$g(x)$	0.75	1.5	3	6	12

Question 6 (b)



Question 6 (c)

$$f(x) = 4x^2 + 2x$$

$$f'(x) = 8x + 2$$

$$f'(x) = 0 \Rightarrow 8x + 2 = 0$$

$$8x = -2$$

$$\therefore x = -\frac{1}{4}$$

$$f\left(-\frac{1}{4}\right) = 4\left(-\frac{1}{4}\right)^2 + 2\left(-\frac{1}{4}\right) = \frac{1}{4} - \frac{1}{2} = -\frac{1}{4}$$

Local minimum $\left(-\frac{1}{4}, -\frac{1}{4}\right)$

Graph: Local minimum $\left(-\frac{1}{4}, -\frac{1}{4}\right)$

Question 6 (d)

$$f(x) = g(x) : x = -0.9, 1$$