AQA

Pure Mathematics 2

分类真题

2019-2022 册

A Level Clouds 出品

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Chapter 1

Functions

3 (a) The polynomial $f(x)$ is defined by

$$f(x) = 4x^3 + bx^2 + cx + 6$$

where b and c are constants.

When $f(x)$ is divided by $(2x - 3)$ the remainder is -6

When $f(x)$ is divided by $(2x + 1)$ the remainder is 10

Find the value of b and the value of c.

[4 marks]

$b =$ _____ $c =$ _____

3 (b) Simplify $\dfrac{4x^2 - 1}{4x^2 + 4x - 3}$, giving your answer in the form $1 + g(x)$.

[4 marks]

Answer _____

9 The function f is defined by

$$f(x) = |x^2 - 5| - 3 \quad \text{for } -5 \leq x \leq 5$$

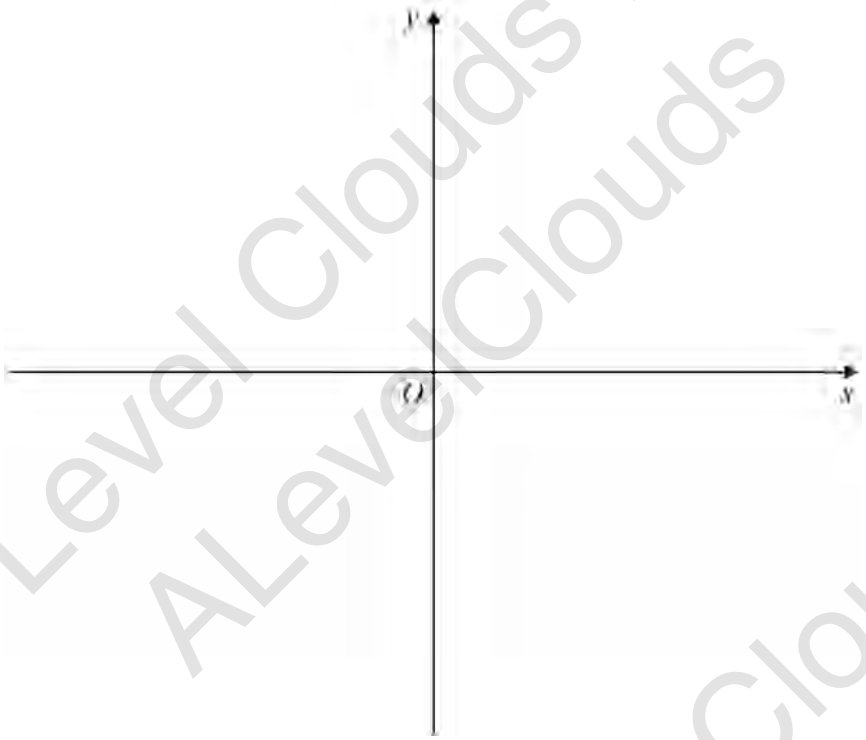
9 (a) (i) Write down the range of f.

[1 mark]

Answer _____

9 (a) (ii) Sketch the graph of $y = f(x)$, indicating the value where the curve crosses the y-axis.

[3 marks]



9 (a) (iii) Solve $f(x) = 1$

[3 marks]

Answer _____

9 (b) The function g is defined by

$$g(x) = \frac{1}{x} \quad \text{where } x \neq 0$$

9 (b) (i) Find an expression for $fg(x)$.

[1 mark]

Answer _____

9 (b) (ii) Solve $fg(x) < 0$

[3 marks]

Answer _____