

Topic : Function. Modulus Functions

The functions f and g are defined by

$$f : x \mapsto 2|x| + 3, \quad x \in \mathbb{R},$$

$$g : x \mapsto 3 - 4x, \quad x \in \mathbb{R}$$

(a) State the range of f .

(2)

(b) Find $fg(1)$.

(2)

(c) Find g^{-1} , the inverse function of g .

(2)

(d) Solve the equation

$$gg(x) + [g(x)]^2 = 0$$

(5)

(Total 11 marks)