

11 The three functions, f , g and h , are defined as

$$f : x \mapsto x^2 + 3x - 4$$

$$g : x \mapsto 2x + 3$$

$$h : x \mapsto \frac{x}{3x - 25}$$

- (a) Write down the value of x that must be excluded from any domain of h . (1)
- (b) Find $f(6)$ (1)
- (c) Solve the equation $h(x) = 7$ (3)
- (d) Find $hg(4)$ (2)
- (e) Express the inverse function h^{-1} in the form $h^{-1} : x \mapsto \dots$ (3)
- (f) Solve the equation $fg(x) = 0$ (4)

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(Total for Question 11 is 14 marks)

TOTAL FOR PAPER IS 100 MARKS

