

**9** The function  $f$  is defined by  $f(x) = -3x^2 + 2$  for  $x \leq -1$ .

(a) State the range of  $f$ .

[1]

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.....

.....

(b) Find an expression for  $f^{-1}(x)$ .

[3]

[illegible]

The function  $g$  is defined by  $g(x) = -x^2 - 1$  for  $x \leq -1$ .

(c) Solve the equation  $fg(x) - gf(x) + 8 = 0$ .

[5]

[illegible]