1 The functions f and g are defined as follows, for all real values of x.

$$\mathrm{f}(x) = 2\sin x + 3\cos x$$

$$\mathrm{g}(x) = \mathrm{e}^{3x} - 1$$

(a) Find fg(0). [2]

(b) Find gg(x). [1]

(c) Solve the equation $\mathrm{g}^{-1}(x) = \frac{1}{3}\ln 5$. [3]