

9 The function f is defined by $f(x) = 2 - 3 \cos x$ for $0 \leq x \leq 2\pi$.

(i) State the range of f .

[2]

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(ii) Sketch the graph of $y = f(x)$.

[2]

The function g is defined by $g(x) = 2 - 3 \cos x$ for $0 \leq x \leq p$, where p is a constant.

- (iii) State the largest value of p for which g has an inverse. [1]

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- (iv) For this value of p , find an expression for $g^{-1}(x)$. [2]

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