

Higher Maths
SQA 2016 Paper 2
Question 8

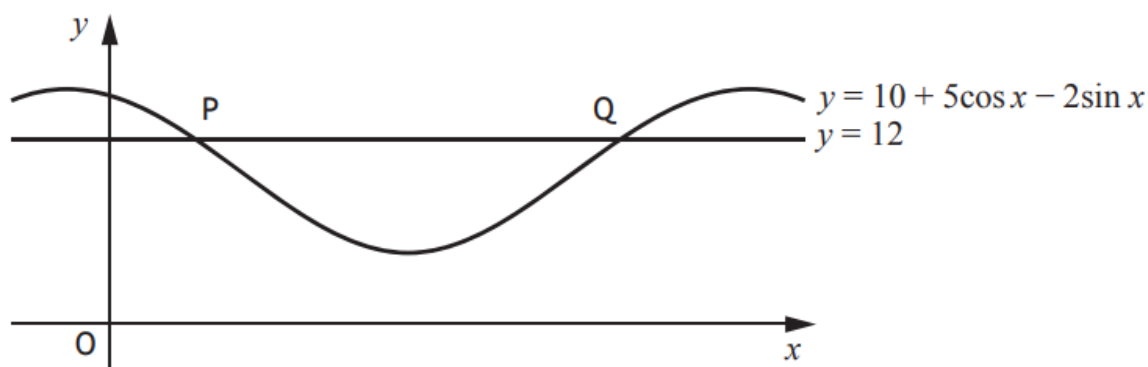


- (a) Express $5\cos x - 2\sin x$ in the form $k\cos(x + a)$,
where $k > 0$ and $0 < a < 2\pi$.

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- (b) The diagram shows a sketch of part of the graph of $y = 10 + 5\cos x - 2\sin x$
and the line with equation $y = 12$.

The line cuts the curve at the points P and Q.



Find the x -coordinates of P and Q.

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Answers:

- (a) $\sqrt{29}\cos(x + 0.38)$
(b) 0.8097 ... and 4.712 ...