

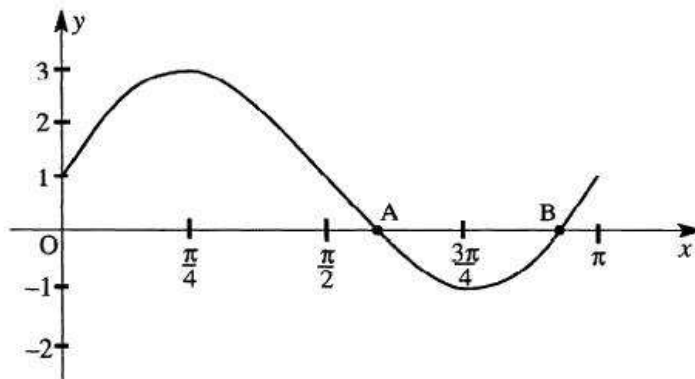
# Trigonometry Non-Calculator A/B Grade

[SQA] 1.

(a) Solve  $\cos 2x^\circ - 3 \cos x^\circ + 2 = 0$  for  $0 \leq x < 360$ .

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(b) Hence solve  $\cos 4x^\circ - 3 \cos 2x^\circ + 2 = 0$  for  $0 \leq x < 360$

[SQA] 2. The diagram below shows the graph of  $y = 2\sin 2x + 1$  for  $0 \leq x \leq \pi$ .

(a) Find the coordinates of A and B (as shown in the diagram) by solving an appropriate equation algebraically.

(5)

(b) The points  $(0, 2)$  and  $(\pi, 0)$  are joined by a straight line  $l$ . In how many points does  $l$  intersect the given graph?

(1)

(c) C is the point on the given graph with an x-coordinate of  $\frac{\pi}{2}$ . Explain whether C is above, below or on the line  $l$ .

(3)

[SQA] 3. The graph of  $y = f(x)$  passes through the point  $(\frac{\pi}{9}, 1)$ .If  $f'(x) = \sin(3x)$  express  $y$  in terms of  $x$ .

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[END OF QUESTIONS]