

6(a)	Sketch a relevant graph for $0 < x < \pi$ For $y = x - 2$ graph should be symmetrical and have correct intercepts on the axes For $y = 2 \sin \frac{1}{2} x$, graph should pass through the origin, have correct curvature and $\max y = 2$ when $x = \pi$
	Sketch second relevant graph and confirm root. The vertex of the modulus graph in roughly correct position relative to π and/or $\frac{1}{2} \pi$ If no mark on the graph, check to see if they have written something below the graph.

6(b)

Calculate the values of a relevant expression or pair of expressions at $x = 1$ and $x = 1.5$

e.g. $f(x) = |x - 2| - 2\sin \frac{1}{2}x$

$f(1) = 0.0411... > 0$ $f(1.5) = -0.863... < 0$

e.g. $f(x) = (x - 2)^2 - 4\sin^2\left(\frac{1}{2}x\right) \Rightarrow f(1) = 0.0806..., f(1.5) = -1.60...$

Complete the argument correctly with correct calculated values

6(c)	Use the iterative process correctly at least once starting at 1.03 (get as far as 1.0281)
	Obtain final answer 1.02
	Show sufficient iterations to 4 d.p. to justify 1.02 to 2 d.p. or show there is a sign change in the interval (1.015, 1.025) (or a smaller interval containing the root)