***** NO CALCULATORS ON THIS ROUND ****

ANSWERS

A)_____

B)_____ °

C)_____

A)   Find the sum of all x, $0 \le x < 2\pi$ for which $\sin(2x) = \cos(x)$

B)   Find all x, $0° \le x < 360°$, for which $\dfrac{\tan(180 - x)}{\sin x} = 2$.

C)   Find the **exact** sum of the five smallest positive solutions in radians to

$$\sec^2\left(\frac{x}{6}\right) + \sqrt{3}\tan\left(\frac{x}{6}\right) = \sqrt{3} + \tan\left(\frac{x}{6}\right) + 1$$