

6 (a) Find the first two terms, in ascending powers of x , of the binomial expansion of

$$\left(1 - \frac{x}{2}\right)^{\frac{1}{2}}$$

[2 marks]

6 (b) Hence, for small values of x , show that

$$\sin 4x + \sqrt{\cos x} \approx A + Bx + Cx^2$$

where A , B and C are constants to be found.

[4 marks]