
(show all your work and circle one letter to get a full mark or you will get zero)

1) Newton's method is used to estimate the x -coordinate of the point of intersection of the curves $y = \sqrt{x}$ and $y = 1 - x^2$. If we start with $x_0 = 1$, then $x_1 =$

- (a) $\frac{1}{2}$
- (b) 0
- (c) $-\frac{1}{2}$
- (d) $\frac{3}{5}$
- (e) $\frac{8}{5}$

2) If $g'(x) = \frac{xe^{2x} + \sqrt[3]{x}}{x}$ and $g(0) = \frac{1}{2}(1 - e^2)$ then $g(1) =$

- (a) 0
- (b) 1
- (c) 2
- (d) 3
- (e) 4

2) If $g'(x) = \frac{2+x^2}{1+x^2}$ and $g(0) = -\frac{\pi}{4}$ then $g(1) =$

- (a) 0
- (b) 1
- (c) -1
- (d) 2
- (e) -2