CHOOSE THE BEST ANSWER:

1) A function is given. Choose the alternative that is the derivative, $\frac{dy}{dx}$ of the function.

$y = 3x^{2/3} - 4x^{1/2} - 2$

a) $2x^{\frac{1}{3}} - 2x^{-\frac{1}{2}}$

b) $3x^{-\frac{1}{3}} - 2x^{-\frac{1}{2}}$

c) $\frac{9}{5}x^{\frac{5}{3}} - 8x^{\frac{3}{2}}$

d) $\frac{2}{x^{\frac{1}{3}}} - \frac{2}{x^{\frac{1}{2}}} - 2$

e) $2x^{-\frac{1}{3}} - 2x^{-\frac{1}{2}}$

2) A function is given. Choose the alternative that is the derivative, $\frac{dy}{dx}$ of the function.

$y = 2\sqrt{x} - \frac{1}{2\sqrt{x}}$

a) $x + \frac{1}{x\sqrt{x}}$

b) $x^{-\frac{1}{2}} + x^{-\frac{3}{2}}$

c) $\frac{4x-1}{4x\sqrt{x}}$

d) $\frac{1}{\sqrt{x}} + \frac{1}{4x\sqrt{x}}$

e) $\frac{4}{\sqrt{x}} + \frac{1}{x\sqrt{x}}$

3) A function is given. Choose the alternative that is the derivative, $\frac{dy}{dx}$ of the function.

$y = \sqrt{x^2 + 2x - 1}$

a) $\frac{x+1}{y}$

b) $4y(x+1)$

c) $\frac{1}{2\sqrt{x^2+2x-1}}$

d) $-\frac{x+1}{(x^2+2x-)1^{\frac{3}{2}}}$

e) None of these

4) A function is given. Choose the alternative that is the derivative, $\frac{dy}{dx}$ of the function.

$y = \frac{x}{\sqrt{1-x^2}}$

a) $\frac{1-2x^2}{(1-x^2)^{\frac{3}{2}}}$

b) $\frac{1}{1-x^2}$

c) $\frac{1}{\sqrt{1-x^2}}$

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

e) None of these