LIMITS AND DERIVATIVES

DERIVATIVES

Q.1 Determine the derivative of the function sec x.

Q.2 Determine the derivative of the function $\dfrac{1}{\sqrt{x}}$.

Q.3 Determine the derivative of the function $x^2 \cos x$.

Q.4 Determine the derivative of the function $e^{\sqrt{\tan x}}$

Q.5 Calculate the derivative of the function $f(x) = (3x + 2)^{3/2}$ with respect to x.

ANSWER KEY

1. sec x tan x

2. $-\dfrac{1}{2\sqrt{x^3}}$

3. $2x \cos x - x^2 \sin x$

4. $e^{\sqrt{\tan x}} \dfrac{\sec^2 x}{2\sqrt{\tan x}}$

5. $\dfrac{9}{2}(3x+2)^{\frac{1}{2}}$