

ECAT Mathematics Chapter 18 Basic Concepts & Definitions Online Test

Sr	Questions	Answers Choice
1	The derivative of $\sqrt{x}$ at $x=a$ is:	A. $\frac{1}{2a}$ B. $\frac{2}{\sqrt{a}}$ C. $2\sqrt{x}$ D. $\frac{1}{2\sqrt{x}}$
2	Question Image	D. None of these
3	Question Image	
4	$\frac{d}{dx}(x^3 + 2x + 3) =$	A. $x^2 + 2$ B. $3x + 2$ C. $3x^2 + 2$ D. $3x^2 + 2$
5	Differentiation of $\sin x$ w.r.t. $\cot x$ is:	A. $-\sin^2 x \sec x$ B. $-\cos x \sin^2 x$ C. $-\cos^2 x \tan x$ D. $-\sin^2 x$
6	$\frac{d}{dx}(\cos x \sin x) =$	A. $\cos^2 x - \sin^2 x$ B. $2\cos^2 x + \sin^2 x$ C. $2\cos^2 x - \sin^2 x$ D. $1 - \sin^2 x$
7	If $y = x^m$ then $\frac{dy}{dx}$ equals:	A. mx B. x/m C. mx^{m-1} D. xm^{m-1}
8	Question Image	A. $x^2 + 2$ B. $3x + 2$ C. $3x^2 + 5$ D. $3x^2 + 2$
9	Question Image	
10	If $f(x) = c$ then $f'(x)$ equals:	A. 1 B. 0 C. cx D. c
11	If $y = (7x + 9)^2$, then $\frac{dy}{dx}$ equals:	A. $98x + 126$ B. $14x$ C. $14x + 18$ D. $14x + 81$
12	Question Image	
13	$f(x) = ax^2 - 3x - 5$, and $f'(2) = 9$, a is equal to	A. 2 B. 3 C. -2 D. 4
14	If $f(x) = x^{100}$ the value of $f'(1)$ is:	A. 100 B. -100 C. 0 D. -101
15	If $x^2 + y^2 = 1$, then $\frac{dy}{dx}$	A. y/x B. $-x/y$ C. $1/x$ D. None of these
16	If c is a constant, then $\frac{d}{dx}(c) =$	A. 0 B. c C. cx D. 1
17	Question Image	

18	If $x = 1 - t^2$ and $y = 3t^2 - 2t^3$ then $dy/dx =$	B. $3(1+t)$ C. $3(t-1)$ D. $3/1-t$
19	$d / dx (\cot x) =$	A. $\sec x \tan x$ B. $-\csc^2 x$ C. $\sec^2 x$ D. $1/\cot^2 x$
20	If $f(x) = x^{2/3}$ then $f'(x)$ at $x = 8$ equals:	A. 8 B. $1/8$ C. $1/3$ D. $2/3$