

ECAT (Pre-Eng) Mathematics Chapter 18 Basic Concepts & Definitions

Sr	Questions	Answers Choice
1	if $y=x^2$ then dy/dx equals:	A. $2x$ B. $x/2$ C. $2x^{>3</sup>}$ D. $x^{>3</sup>/2}$
2	$d/dx [\tan^2 x]$	A. $2\tan x \sec^{>2</sup> x}$ B. $2\tan x \sec x$ C. $2 \cot x \tan x$ D. $2\sec^{>2</sup> x} \cos^{>2</sup> x}$
3	Question Image	A. zero at x B. differentiable at x C. continuous at x D. none of these
4	If $x = at^2$ and $y = 2at$ then $dy/dx =$	A. $2a/y$ B. $y/2a$ C. $-a/2y$ D. $-2y/a$
5	Question Image	A. 100 B. -100 C. 0 D. -101
6	Question Image	
7	Question Image	B. $x^{>n-1</sup>}$
8	Question Image	D. None of these
9	Question Image	A. mx B. x/m C. $mx^{>m-1</sup>}$ D. $xm^{>m-1</sup>}$
10	Let f be real valued function continuous in the interval $(x, x_1) \subseteq D_f$ (the domain of f), then $\frac{f(x_1) - f(x)}{x_1 - x}$ represents:	A. Instantaneous rate B. Average rate of change C. Differential coefficient D. None of these
11	Question Image	A. $2x$ B. $x/2$ C. $2x^{>3</sup>}$ D. $x^{>3</sup>/2}$
12	Question Image	
13	If $y = 3x + 2\cos x$, then $dy/dx =$	A. $3-2 \sin x$ B. $3-t \sin x$ C. $3x^{>2</sup>} - 2\sin x$ D. $3(1-4 \sin x)$
14	Question Image	
15	Question Image	
16	Question Image	
17	If $f(x) = 1/x-2$ then $f'(0)$ equals:	A. -1/4 B. -3/2 C. -1/2 D. 1/5
18	The derivative of \sqrt{x} at $x = a$ is:	A. $1/2a$ B. $2 / \sqrt{a}$ C. $2\sqrt{x}$ D. $1 / 2\sqrt{x}$
19	Question Image	A. -2x B. $x^{>-3</sup>}$ D. $-2x^{>3</sup>}$

20

If $f(x) = x^5 + x^3 + x$ the value of $f^{-1}(1)$ is:

- A. 0
- B. 8
- C. 5
- D. 9