

ECAT Mathematics Online Test

Sr	Questions	Answers Choice
1	One degree is denoted by	A. 1° B. $1'$ C. $1''$ D. 1 rad
2	An expression involving any of the symbols $<$, $>$, \leq or \geq is called	A. equation B. inequality C. linear equation D. identity
3	Question Image	A. 360° B. 180° C. 90° D. None of these
4	$3x + 4 = 0$ is	A. not inequality B. equation C. identity D. inequality
5	$3x + 4 \leq 0$ is	A. not inequality B. equation C. identity D. inequality
6	$3x + 4 < 0$ is	A. inequality B. equation C. identity D. not inequality
7	$3x + 4 \geq 0$ is	A. equation B. inequality C. identity D. none of these
8	$3x + 4 > 0$ is	A. equation B. identity C. inequality D. none of these
9	The expansion of $(1 - 3x)^{-1}$ is valid if	A. $ x < 1$ B. $ x < 3$ C. $ x < 1/3$ D. None of these
10	The expansion of $(1 + 2x)^{-2}$ is valid if	A. $ x < 1/2$ B. $ x < 1$ C. $ x < 2$ D. $ x < 3$
11	If $ x < 1$, then the first two terms of $(1 - x)^{1/2}$ are	
12	Question Image	A. 8 B. 9 C. 10 D. 11
13	If n is not natural number, then the expansion $(1 + x)^n$ is valid for	
14	The sum of the even coefficients in the expansion $(1 + x)^n$ is	A. 2^{n-1} B. 2^{n-2} C. 2^{n-1} D. 2^n
15	If $A(x_1, y_1)$, $B(x_2, y_2)$ and $C(x_3, y_3)$ are the vertices of a triangle then its centroid is	
16	If the exponent in the binomial expansion is 6, then the middle term is	A. 2nd term B. 3rd term C. 4th term D. 5th term
17	The number of terms in the expansion of $(a + x)^{12}$ is	A. 13 B. 12 C. 11 D. 10

18	$(1 - x)^3 = \underline{\hspace{2cm}}$	A. $1 + 3x + 3x^2 + x^3$ B. $1 + x + x^2 + x^3$ C. $1 - x + x^2 - x^3$ D. $1 - 3x + 3x^2 - x^3$
19	The point of concurrency of the right bisectors of the sides of a triangle is called	A. incentre B. circum center C. e-center D. centroid
20	$(1 + 2x)^4 = \underline{\hspace{2cm}}$	A. $1 + 4x + 6x^2 + 4x^3 + x^4$ B. $1 - 4x + 6x^2 - 4x^3 + x^4$ C. $1 - 8x + 24x^2 - 32x^3 + 16x^4$ D. $1 + 8x + 24x^2 + 32x^3 + 16x^4$
21	The point of concurrency of the angle bisectors of a triangle is called	A. incentre B. circumcentre C. e-centre D. centroid
22	If n is any positive integer then $2^n > 2(n + 1)$ is true for all	
23	The point of concurrency of the medians of a triangle is called	A. incentre B. circumcentre C. e-centre D. centroid
24	The point which divides the line segment joining the points (a, b) and (c, d) in the ratio 2 : 3 internally is	D. none of these
25	The centroid of a triangle divides each median in the ratio	A. 2 : 1 B. 3 : 1 C. 3 : 2 D. 1 : 1
26	If n is any positive integer then $4^n > 3^n + 4$ is true for all	
27	The coordinates of the point that divides the join of A(-6,3) and B(5, -2) in the ratio 2:3 externally are	
28	If n is any positive integer then $3 + 6 + 9 + \dots + 3n = \underline{\hspace{2cm}}$	
29	The coordinates of the point that divides the join of A(-6,3) and B(5, -2) in the ratio 2:3 internally	
30	If a statement S(n) is true for $n = i$ where i is some natural number and the truth of S(n) for $n = k > i$ implies the truth of S(n) for $n = k + 1$ then S(n) is true for all positive integers	