ASSIGNMENT

CLASS XI   LINEAR INEQUALITY

Q1 The sum of two numbers is 9 and sum of their squares is .The numbers are :

(a)   2,5   (b)   4,5

(c)   3,4   (d)   2,3.

Q2 If one root of the equation $3x^2 -6kx + 8k = 0$ is 4 ,the other root is :

(a)   2   (b)   -2   (c)   4   (d)   3

Q4   The number of real solutions of the equation $x^2 - 3|x| + 2 = 0$ is:

(a)   2   (b)   8   (c)   4   (d)   3

Q6.   The value of k for which $x^2 - 4x + k = 0$ has coincident roots, is:

(a)   6   (b)   -2   (c)   4   (d)   13.

Q7   The polynomial $(x^2 - x + 1)$ has;(a)One proper linear factor   (b)   Two proper linear factor

(c)   No proper linear factor 4   (d)   None of these.

Q8   The perimeter of a rectangle is 82 m and its area is $400m^2$. The breadth of the rectangle is :(a)   2   (b)   5   (c)   4   (d)   3.

Q9   The distance between the points P (x, 4) and Q (1, 7) is 5 units , then the value of x is :(a)   2 or 5   (b)   1 or -6

(c)   1or 4   (d)   -3 or 5

Q10 Find the equation to the straight line passing through the point of intersection of the lines $5x - 6y - 1 = 0$ and $3x + 2y + 5 = 0$ and perpendicular to the line $3x - 5y + 11 = 0$.

(a) $5x - 3y + 8 = 0$(b) $5x + 3y + 8 = 0$

(c) $5x - 3y - 8 = 0$(d) $5x + 3y + 8 = 0$

Q11 The domain of the function $f(x) = \dfrac{1}{\sqrt{|x|-x}}$ is

(a) $[0, \infty)$ (b) $(-\infty, 0)$

(c)   [1, ∞)   (d)   (-∞, 0]

Q12 f(xy) = f(x)f(y) is true for all

(a)   polynomial functions f ,   (b)   trigometric
        functions f,

(c)   exponential functions f ,   (d)   logarithmic
functions f

Q13 For each non zero real number x , let $f(x) = \frac{x}{|x|}$ then range of f is –

(a)   a null set   (b)   a set consisting of
        only one element

(c) a set consisting of two elements   (d) a set consisting of infinitely many
elements .

Q14 The function $f(x) = \log(x + \sqrt{x^2 + 1})$ is -

(a)   an even function   (b)   an odd function
(b)   periodic function   (d)   none of these

Q15 If cosec θ - cot θ $= \frac{1}{\sqrt{3}}$,   where $\theta \neq 0$, then what is value of cos θ ?

(a)   0   (b) $\frac{\sqrt{3}}{2}$

(c) $\frac{1}{2}$ (d) $\frac{1}{\sqrt{2}}$

Q16 If $= 18°$, then what value of $4sin^2\theta + 2 \sin \theta$?

(a)   -1   (b)   1
(c)   0   (d)   2

Q17 If sin A $= \frac{2}{\sqrt{5}}$ and cos B $= \frac{1}{\sqrt{10}}$ where A and B are acute angles ,then what is
the value of A+B?

(a)   135° (b)   90°

(c)   75° (d) none of these

Let A={x ∈ R:0<x<1}. Then , which of the following is not an element of A ?

(a)   1 (b) $\frac{1}{2}$ (c) $\frac{1}{3}$

(d) $\frac{1}{4}$

19.   Write down the modulus of : $2 + \sqrt{-5}$

(a)   1 (b) $\sqrt{29}$ (c)   3
(d)   4

20. $(2 + i)^2 = ?$

(a) $8 + i$ (b)   2+ 11 i (c) $8 - 3i$
(d)   None of these

21. $i^{247} = ?$

(a)   1 (b)   -1
(c) i (d) $-i$

22. $\sqrt{-16} \times \sqrt{-9} = ?$

(a) ± 12 (b) ± 12 (c)   -12
(d)   None of these

23.   The smallest integer n for which $\left(\frac{1+i}{1-i}\right)^n = 1$

(a)   4 (b)   8 (c)
12 (d)   16

24.   Range of the given function f(x)= 2-3x is

(a)   (-∞,2) (b)   (-∞ ,2] (c)
(2,∞) (d)   None of these

25. Let f = { (1,1) , (2,3) , (0 -1) , (-1, -3)} be a linear function from Z to Z. Then f(x) is

(a) 2x-1   (b) 3x-2   (c) 5x+1

(d) None of these

Let A={x $\in$ R:0<x<1}. Then , which of the following is not an element of A ?

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22. $\sqrt{-16}$ x $\sqrt{-9}$ =?

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