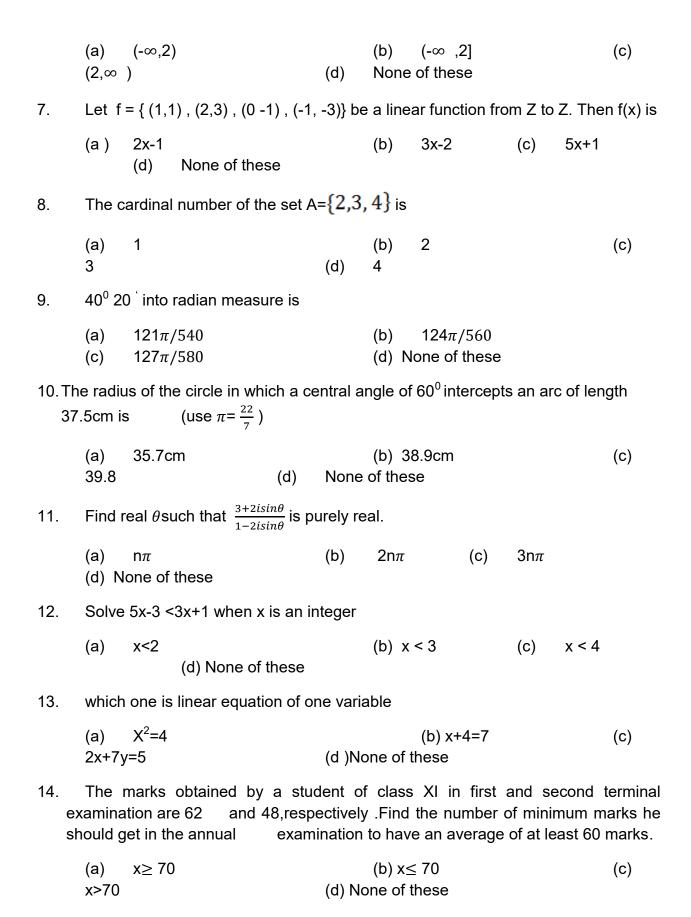# ASSIGNMENT CLASS XI COMPLEX NUMBERS

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

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

   (d) 4

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

   (a) $8 + i$ (b) $2 + 11i$ (c) $8 - 3i$

   (d) None of these

3. $i^{247} = ?$

   (a) 1   (b) -1

   (c) i (d) $-i$

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

   (a) ± 12 (b) ± 12 (c) -12

   (d) None of these

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

   (a) 4   (b) 8   (c)

   12   (d) 16

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

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

7.   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

8.   The cardinal number of the set A=$\{2,3,4\}$ is

(a)   1   (b)   2   (c)
3   (d)   4

9. 40^0 20ʹ into radian measure is

(a) $121\pi/540$ (b) $124\pi/560$
(c) $127\pi/580$ (d) None of these

10. The radius of the circle in which a central angle of 60^0 intercepts an arc of length
    37.5cm is   (use $\pi=\frac{22}{7}$)

(a)   35.7cm   (b) 38.9cm   (c)
39.8   (d)   None of these

11.   Find real θ such that $\frac{3+2isin\theta}{1-2isin\theta}$ is purely real.

(a) $n\pi$ (b) $2n\pi$ (c) $3n\pi$
(d) None of these

12.   Solve 5x-3 <3x+1 when x is an integer

(a)   x<2   (b) x < 3   (c)   x < 4
(d) None of these

13.   which one is linear equation of one variable

(a) $X^2=4$ (b) x+4=7   (c)
2x+7y=5   (d)None of these

14.   The marks obtained by a student of class XI in first and second terminal
    examination are 62   and 48,respectively .Find the number of minimum marks he
    should get in the annual   examination to have an average of at least 60 marks.

(a)   x≥ 70   (b) x≤ 70   (c)
x>70   (d) None of these

15. Given 4 flags of different colours, how many different signals can be generated ,if a signal requires the use of 2 flags one below the other ?

    (a)   12   (b) 13   (c)   14
    (d) None of these

16. How many 4-digit numbers can be formed by using the digits 1 to 9, if repetition of digits is   notallowed?

    (a)   3179   (b)   3085   (c)
    3024   (d)   None of these

17. Determine the number of 5 card combinations out of a deck of 52 cards if there is exactly one   acein each combination.

    (a)   768234   (b)   778320
    (c)   775986   (d)   None of these

18. Find a if the 17th and 18th terms of the expansion $(2+a)^{50}$ are equal.

    (a)   1   (b)   2

    (c)   3   (d)   None of these

19. Find the coefficient of $x^6 y^3$ in the expansion of $(x+2y)^9$.

    (a)   727   (b)   267

    (c)   672   (d)   None of these

21. What is the 20th term of the sequence defined by $a_n=(n-1)(2-n)(3+n)$?

    (a)   7866   (b)   -7866

    (c)   7688   (d)   None of these

22. Arithmetic mean of 4 and 16 is
    (a)   10   (b)   12

    (c)   14   (d)   None of these

21. If the sum of a certain number of terms of the A.P .25,22,19,….is 116. Find the last term.
    (a)   5   (b)   4

    (c)   6   (d)   None of these

22. Find the slope of the line passing through the points (3,-2) and (-1,4).

(a)   -3/2   (b)   -5/2

(c)   7/4   (d)   None of these

23.   Find the slope of the line making an angle of 60^0 with the positive direction of X-axis

(a) $\sqrt{3}$ (b) $\frac{1}{\sqrt{3}}$

(c)   Not defined   (d)   None of these

24.   Line through the points (-2,6) and (4,8) is perpendicular to the line through the points (8,12)   and(x,24) .Then value of x is

(a)   5   (b)   4

(c)   6   (d)   9

25.   If α and β are the roots of the polynomials p(x)=x^2-px+q .Then1/α+1/β

(a)   p/q   (b)   q/p

(c)   pq   (d) p^2/q

26.   If a & b are the roots of the polynomial P(x)= x^2-5x+k such that a-b=1 .Then the value of k is

(a)   4   (b)   5

(c)   6   (d)   7

27.   The equation of the line through (-2,3) with slope -4 is

(a)   4x+y+5=0   (b)   3x+2y-7=0

(c)   2x-5y+7=0   (d)   5x+3y-8=0

28.   If the sum of the squares of zeros of the polynomials p(x) =x^2-8x+kis 40.Then the value of k is

(a)   13   (b)   11

(c)   12   (d)   15

29.   If a & b are the zeros of the polynomials p(x)= x^2+px+q. Then the value of $\frac{1}{a}+\frac{1}{b}$

(a) $\dfrac{1}{a}$ (b) $\dfrac{-p}{q}$

(c) $\dfrac{1}{b}$ (d) $\dfrac{p}{q}$

30.   The equation of the line through the points (1,-1) and (3,5).

     (a)   -3x+y+4=0   (b)   4x+2y-6=0

     (c)   5x-3y+6=0   (d)   None of these