



Ninth Grade - Complex Number

1) Complete the following $i^3 = ?$

- -i
- i
- -1
- 1

2) Complete the following $i^{13} = ?$

- i
- 1
- -i
- -1

3) Complete the following $i^1 = ?$

- -1
- i
- 1
- -i

4) Complete the following $i^{???} = ?$

- -1
- i
- -i
- 1

5) The real part of i is



- 0
- 3
- 1
- 5

6) What does $e^{i\theta}$ stands for ?

- $\cos\theta - i \sin\theta$
- $i \sin\theta + \cos\theta$
- $\cos\theta + i \sin\theta$
- $\sin\theta - i \cos\theta$

7) Compute the given number $\sqrt{-144} = ?$

- $-13i$
- $-12i$
- $13i$
- $12i$

8) Compute the given number $\sqrt{-169} = ?$

- $i + 13$
- $13/i$
- $i - 13$
- $13i$

9) Compute the given $\sqrt{-4} \times \sqrt{-9/4}$

- -1
- -3
- -4
- -2



10) If $z = 2 - iy$ and $z = x + 3i$ then find x and y .

- -2, 3
- -4, -4
- 2, -3
- -3, 2

11) Find the real values of x and y if $(3x - 7) + 2iy = -5y + (5 + x)i$

- $x = -1$, $y = 2$
- $x = 2$, $y = -2$
- $x = 1$, $y = 2$
- $x = -2$, $y = -2$

12) Find the values of x and y if $(x + iy)(2 - 3i) = 4 + i$

- $(15 + 13)$, $(14 - 13)$
- $(15 - 17)$, $(15 + 13)$
- $(15/13)$, $(14/13)$
- $(15/17)$, $(15/13)$

13) Find the values of x and y if $(1 - i)x + (1 + i)y = 1 - 3i$

- -1, -2
- -1, 2
- 1, 2
- -2, 1

14) Find the value for the relation.

- 5(
- 2 -



- z_1
- z_2

15) Find real values of x and y $(1 + i)y^2 + (6 + i) = (2 + i)x$

- $4, \pm 7$
- $5, \pm 2$
- $3, \pm 6$
- $7, \pm 3$

16) Solve the equations $4x^2 + 9 = 0$ by factorization method.

- $(3/2)i$
- $(4/2)i$
- $-(3/2)i$
- $-(4/2)i$

17) Solve the equation $x^2 - 4x + 13 = 0$ by factorization method.

- $5 - 2i, -4 + 3i$
- $-3 - 2i, 3 + 2i$
- $2 + 3i, 2 - 3i$
- $-2 - 3i, 4 - 3i$

18) Solve the equation $x^2 - 5ix - 6 = 0$ by factorization method.

- $3i, -2i$
- $3i, 2i$
- $7i, -8i$
- $5i, 4i$



19) Solve the equation $x^2 + 4ix - 4 = 0$ by factorization method.

- $-2i, -2i$
- $2i, 2i$
- $4i, 4i$
- $-4i + 4i$

20) Solve the equation $3x^2 + 7ix + 6 = 0$ by factorization method.

- $8i, (3/4)i$
- $4i, (2/3)i$
- $-3i, (2/3)i$
- $3i, (2/3)i$

21) Solve the equation $x^2 + 1 = 0$ by factorization method.

- ± 3
- ± 4
- ± 1
- ± 2

22) Solve the equation $9x^2 + 4 = 0$ by factorization method.

- $\pm i(9/3)$
- $\pm i(2/3)$
- $\pm i(3/2)$
- $\pm i(5/3)$

23) Solve the equation $2x^2 - 4x + 3 = 0$ by formula method.

- $x = (7 \pm (6 / ?9)i)$
- $x = (2 \pm (1 / ?5)i)$
- $x = (-1 \pm (1 / ?2)i)$
- $x = (1 \pm (1 / ?2)i)$



24) Solve the equation $27x^2 - 10x + 1 = 0$ by formula method.

- $x = (9 \pm i\sqrt{3})/25$
- $x = (-5 \pm i\sqrt{3})/27$
- $x = (5 \pm i\sqrt{2})/27$
- $x = -(5 \pm i\sqrt{2})/24$

25) Solve the equation $-x^2 + x - 2 = 0$ by formula method.

- $x = -1 \pm i\sqrt{7}/2$
- $x = -1 \pm i\sqrt{7}/-2$
- $x = 1 \pm i\sqrt{9}/-2$
- $x = 1 \pm i\sqrt{5}/-2$

26) Solve the equation $x^2 - 2x + (3/2) = 0$ by formula method.

- $2 \pm (i\sqrt{5})$
- $2 \pm (i\sqrt{9})$
- $1 \pm (i\sqrt{3})$
- $\pm(i\sqrt{2})$

27) Solve the equation $2x^2 + 3ix + 2 = 0$ by formula method.

- $x = i/3$ or $-2i$
- $x = i/8$ or $-8i$
- $x = i/2$ or $-2i$
- $x = i/4$ or $-4i$

28) Solve the equation $ix^2 - x + 12i = 0$ by formula method.



- $x = (4/i) \text{ or } (-3i)$
- $x = (5/i) \text{ or } (-3i)$
- $x = (6/i) \text{ or } (-3i)$
- $x = (-4/i) \text{ or } (3i)$

29) Solve the equation $x^2 + x + (1/2) = 0$

- $x = 2 \pm i\sqrt{2^2 - 1}/4$
- $x = -3 \pm i\sqrt{3^2 - 1}/6$
- $x = -1 \pm i\sqrt{2^2 - 1}/2$
- $x = -2 \pm i\sqrt{2^2 - 1}/3$

30) Solve the equation $x^2 - 8x + 24 = 0$ by completing the square method.

- $x = 5 \pm 5\sqrt{2}i$
- $x = 3 \pm 3\sqrt{2}i$
- $x = -4 \pm 2\sqrt{2}i$
- $x = 4 \pm 2\sqrt{2}i$