



ST. LAWRENCE HIGH SCHOOL
A JESUIT CHRISTIAN MINORITY INSTITUTION



Solutions of worksheet-7

SUBJECT – MATHEMATICS

1st term

Chapter: Algebra

Class: XI

Topic: Complex Numbers

Date: 09.07.2020

Choose the correct option

(1 X 15= 15)

1. If $\bar{z} = -3 + 5i$ then $z = ?$

- a) $-3 - 5i$
- b) $3 + 5i$
- c) $5 + 3i$
- d) $5 - 3i$

2. In If $z = -2 - \sqrt{-5}$ then $\bar{z} = ?$

- a) $-2 + \sqrt{-5}$
- b) $2 - \sqrt{-5}$
- c) $2 + \sqrt{-5}$
- d) $2i - \sqrt{5}$

3. Which one is true ?

- a) $2 + 3i > 1 + 4i$
- b) $5 + 9i > 9 + 5i$
- c) $5 - 9i > 9 + 5i$
- d) **None of these.**

4. Simplify $2\sqrt{-18} + 3\sqrt{-50} - 6\sqrt{-8} = ?$

a) $9\sqrt{2}i$

b) $9\sqrt{3}i$

c) $8\sqrt{2}i$

d) $\sqrt{2}i$

5. The modulus of the complex number $1 + \sqrt{-8} = ?$

a) 2

b) -5

c) 8

d) 3

6. If x and y are real, and $x + iy = 0$ then –

a) $x = 0, y = 1$

b) $x = 1, y = 0$

c) $x = 1, y = 1$

d) None of these.

7. $1 + i + i^2 + i^3 + i^4 = ?$

a) 0

b) 1

c) i

d) 2

8. If $(a+ib)(c+id)$ is purely real, then which of the followings is true –

a) $ac-bd=0$

b) $bc=0$

c) $ad=0$

d) $bc+ad=0$

9. Simplify $(2\sqrt{-5} + 3\sqrt{-2})(-3\sqrt{-8} - \sqrt{-20}) = ?$

a) $56 + 18\sqrt{10}$

b) $58 + 16\sqrt{10}$

c) $56 + 18\sqrt{-10}$

d) None of these.

10. The modulus of the complex number $-2\sqrt{3} + 2\sqrt{2}i = ?$

- a) 2
- b) -2
- c) $2\sqrt{5}$
- d) $-2\sqrt{5}$

11. The modulus of the complex number $(3 - 4i)(-2 + 5i) = ?$

- a) 5
- b) 10
- c) 15
- d) 20

12. $\left| \frac{x-iy}{-x+iy} \right| = ?$

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

13. $(1 + i)^2 + (1 - i)^2 = ?$

- a) 4
- b) 2
- c) 1
- d) 0

14. $(1 + i)^{-2} - (1 - i)^{-2} = ?$

- a) -i
- b) i
- c) 2
- d) None of these.

15. $\frac{i+i^2+i^3+i^4}{1+i} = ?$

- a) -1
- b) 0
- c) 1
- d) i

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