



ST. LAWRENCE HIGH SCHOOL
A JESUIT CHRISTIAN MINORITY INSTITUTION



Solutions of Worksheet-24

SUBJECT – MATHEMATICS

2nd-term

Chapter: Trigonometry & Algebra

Class: XI

Topic: General Solutions & Binomial

Date: 21.11.2020

Choose the correct option

(1 X 15= 15)

1. The general solution of $\cos \theta = 0$ is ?

- a) $\theta = n\pi$
- b) $\theta = (2n + 1)\frac{\pi}{2}$**
- c) $\theta = 2n\pi$
- d) $\theta = (2n - 1)\frac{\pi}{2}$

2. The general solution of $\sin \theta = 1$ is ?

- a) $\theta = n\pi$
- b) $\theta = (4n + 1)\frac{\pi}{4}$
- c) $\theta = 2n\pi$
- d) $\theta = (4n + 1)\frac{\pi}{2}$**

3. If $\tan \theta = 1$ and $0^\circ \leq \theta \leq 360^\circ$, then $\theta = ?$

- a) 45° & 225°**
- b) 45° & 135°
- c) 45° & 315°
- d) 45° & 210°

4. The general solution of $\cot \theta = \cot \alpha$ ($\alpha \neq 0$) is ?

- a) $\theta = n\pi + \alpha$**
- b) $\theta = n\pi + \frac{\alpha}{2}$
- c) $\theta = n\pi - \alpha$
- d) $\theta = \alpha$

5. The general solution of $\operatorname{cosec} \theta = \operatorname{cosec} \alpha$ ($\alpha \neq 0$) is ?

a) $\theta = n\pi + \alpha$

b) $\theta = n\pi + \frac{\alpha}{2}$

c) $\theta = n\pi\alpha$

d) **None of these.**

6. The general solution of $\sin \theta = \cos \theta$ is ?

a) $\theta = (2n + 1)\frac{\pi}{4}$

b) $\theta = n\pi + \frac{\pi}{4}$

c) $\theta = \frac{\pi}{4}$

d) None of these.

7. The general solution of the equation $\tan 3x = 1$ is ?

a) $n\pi + \frac{\pi}{12}$

b) $n\pi + \frac{\pi}{4}$

c) $\frac{n\pi}{3} + \frac{\pi}{4}$

d) $\frac{n\pi}{3} + \frac{\pi}{12}$

8. The number of terms in the expansion of $\left(x - \frac{2}{3x}\right)^{11}$ is ?

a) 11 , b) **12** , c) 13 , d) 14

9. The index of y in the 10th term of the expansion of $(x + y)^{19}$ is ?

a) **9** , b) 10 , c) 19 , d) 20

10. The middle term in the expansion of $(2x - 3y)^{12}$ is ?

a) **7th term**

b) 8th term

c) 8th term

d) None of these.

11. The middle term in the expansion of $(3x - 4y)^{15}$ is ?

a) 6th & 7th terms.

b) 5th & 6th terms.

c) 7th & 8th terms.

d) **8th & 9th terms.**

12. The index of a in the 12th term of the expansion of $(a + 2b)^{20}$ is ?

- a) 9
- b) 10
- c) 19
- d) 20

13. The coefficient of x^{15} in the expansion of $\left(x^3 + \frac{2}{x^2}\right)^{10}$ is ?

- a) 650
- b) 850
- c) 960
- d) 860

14. The coefficient of x^{-2} in the expansion of $\left(2x^3 - \frac{1}{x^2}\right)^6$ is ?

- a) 60
- b) 50
- c) 96
- d) 86

15. The coefficient of x^4 in the expansion of $(1 + x + x^2 + x^3)^{11}$ is ?

- a) 660 , b) 909 , c) 990 , d) None of these.

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