MathCity.org *Merging man and maths*	**Multiple Choice Questions (MCQs)** **Mathematics (Science Group): 9th** Written by Amir Shehzad, Version: 1.0

CHAPTER NO #1

1. The order of matrix [2 1] is …

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

2. $\begin{bmatrix} \sqrt{2} & 0 \\ 0 & \sqrt{2} \end{bmatrix}$ **is called ……. Matrix.**

(a) zero (b) unit
(c) scalar (d) singular

3. Which is order of a square matrix?

(a) 2-by-2 (b) 1-by-2
(c) 2-by-1 (d) 3-by-2

4. Which is order of a rectangular matrix?

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

5. Order of transpose of $\begin{bmatrix} 2 & 1 \\ 0 & 1 \\ 3 & 2 \end{bmatrix}$ **is …**

(a) 3-by-2 (b) 2-by-3
(c) 1-by-3 (d) 3-by-1

6. Adjoint of $\begin{bmatrix} 1 & 2 \\ 0 & -1 \end{bmatrix}$ **is ……**

(a) $\begin{bmatrix} -1 & -2 \\ 0 & 1 \end{bmatrix}$ (b) $\begin{bmatrix} 1 & -2 \\ 0 & -1 \end{bmatrix}$

(c) $\begin{bmatrix} -1 & 2 \\ 0 & -1 \end{bmatrix}$ (d) $\begin{bmatrix} -1 & 0 \\ 2 & 1 \end{bmatrix}$

7. If $\begin{vmatrix} 2 & 6 \\ 3 & x \end{vmatrix} = 0$**, then *x* is equal to**

(a) 9 (b) –6
(c) 6 (d) –9

8. Product of $[x \quad y]$ $\begin{bmatrix} 2 \\ -1 \end{bmatrix}$ **is ……..**

(a) $[2x+y]$ (b) $[x-2y]$
(c) $[2x-y]$ (d) $[x+2y]$

9. If $X + \begin{bmatrix} -1 & -2 \\ 0 & -1 \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ **then X is equal to……..**

(a) $\begin{bmatrix} 2 & 2 \\ 2 & 0 \end{bmatrix}$ (b) $\begin{bmatrix} 0 & 2 \\ 2 & 2 \end{bmatrix}$

(c) $\begin{bmatrix} 2 & 0 \\ 0 & 2 \end{bmatrix}$ (d) $\begin{bmatrix} 2 & 2 \\ 0 & 2 \end{bmatrix}$

Additional MCQ

10. The idea of a matrices was given by:__

(a) Arthur Cayley (b) Leonard Euler
(c) Henry Briggs (d) John Napier

11. If $A = \begin{bmatrix} 1 & -2 \\ 3 & 4 \end{bmatrix}$ **then –A = _____**

(a) $\begin{bmatrix} -1 & 2 \\ -3 & -4 \end{bmatrix}$ (b) $\begin{bmatrix} 1 & -2 \\ -3 & -4 \end{bmatrix}$

(c) $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ (d) $\begin{bmatrix} -1 & 2 \\ 3 & -4 \end{bmatrix}$

12. A square matrix is symmetric if ___

(a) $A^t = A$ (b) $A^{-1} = A$
(c) $(A^t)^t = -A^t$ (d) $A^t = -A$

13. A square matrix is skew-symmetric if:

(a) $A^t = -A$ (b) $A^{-1} = -A$

(c) $(A)^t = -A^t$ (d) $A^t = A$

14. A square matrix A is called singular if

(a) $|A| \neq 0$ (b) $|A| = 0$

15. A square matrix A is called non-singular if:

(a) $|A| = 0$ (b) $A = 0$

(c) $|A| \neq 0$ (d) $A^t = 0$

16. $(AB)^{-1}$ = _____

(a) $A^{-1} B^{-1}$ (b) $B^{-1} A^{-1}$

(c) BA (d) AB

17. Additive inverse of $\begin{bmatrix} 1 & -2 \\ 0 & -1 \end{bmatrix}$ is _____

(a) $\begin{bmatrix} -1 & 2 \\ 0 & 1 \end{bmatrix}$ (b) $\begin{bmatrix} 1 & -2 \\ 0 & 1 \end{bmatrix}$

(c) $\begin{bmatrix} -1 & -2 \\ 0 & -1 \end{bmatrix}$ (d) $\begin{bmatrix} 1 & -2 \\ 0 & -1 \end{bmatrix}$

(c) $A = 0$ (d) $A^t = 0$

18. If A is a matrix then its transpose is denoted by:

(a) A^{-1} (b) A^t

(c) -A (d) $(A^t)^t$

19. Which of the following is singular matrix?

(a) $\begin{bmatrix} 1 & 4 \\ 2 & 7 \end{bmatrix}$ (b) $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$

(c) $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ (d) $\begin{bmatrix} 1 & 2 \\ 3 & 6 \end{bmatrix}$

20. If $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ then the det. A is:

(a) ad – bc (b) bc – ad

(c) ad + bc (d) bc + ad

Answer

1.	b	2.	c	3.	a	4.	c	5.	b
6.	a	7.	a	8.	c	9.	d	10.	a
11.	a	12.	a	13.	a	14.	b	15.	c
16.	b	17.	a	18.	b	19.	d	20.	a

Chapter #2

1. $\left(27x^{-1}\right)^{\frac{-2}{3}}$ = _____

(a) $\frac{\sqrt[3]{x^2}}{9}$ (b) $\frac{\sqrt{x^3}}{9}$

(c) $\frac{\sqrt[3]{x^2}}{8}$ (d) $\frac{\sqrt{x^3}}{8}$

2. Write $\sqrt[7]{x}$ in exponential form

(a) x (b) x^7

(c) $x^{\frac{1}{7}}$ (d) $x^{\frac{7}{2}}$

3. Write $4^{\frac{2}{3}}$ with radical sign….

(a) $\sqrt[3]{4^2}$ (b) $\sqrt{4^3}$

(c) $\sqrt[2]{4^3}$ (d) $\sqrt{4^6}$

4. In $\sqrt[3]{35}$ the radicand is

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

(c) 35 (d) None of these

5. $\left(\frac{25}{16}\right)^{\frac{-1}{2}} =$ _____

(a) $\frac{5}{4}$ (b) $\frac{4}{5}$

(c) $\frac{-5}{4}$ (d) $\frac{-4}{5}$

6. The conjugate of $5 + 4i$ is _____

(a) $-5 + 4i$ (b) $-5 - 4i$

(c) $5 - 4i$ (d) $5 + 4i$

7. The value of i^9 is ____

(a) 1 (b) -1

(c) i (d) $-i$

8. Every real number is ____

(a) A positive integer

(b) A rational number

(c) A negative integer

(d) A complex number

9. Real part of $2ab\left(i + i^2\right)$ is ____

(a) $2ab$ (b) $-2ab$

(c) $2abi$ (d) $-2abi$

10. Imaginary part of $-i\,(3i + 2)$ is_

(a) -2 (b) 2

(c) 3 (d) -3

11. Which of the following sets have the closure property w.r.t. addition_____

(a) $\{0\}$ (b) $\{0, -1\}$

(c) $\{0, 1\}$ (d) $\left\{1, \sqrt{2}, \frac{1}{2}\right\}$

12. Name the property of real numbers used in $\left(\frac{-\sqrt{5}}{2}\right) \times 1 = \frac{-\sqrt{5}}{2}$

(a) Additive identity

(b) Additive Inverse

(c) Multiplicative identity

(d) Multiplicative Inverse

13. If $x, y, z \in R$ $z < 0$ then $x < y \Rightarrow$

(a) $xz < yz$ (b) $xz > yz$

(c) $xz = yz$ (d) none of these

14. If $a, b \in R$ then only one of $a = b$ or $a < b$ or $a > b$ holds is called…

(a) Trichotomy property

(b) Transitive property

(c) Additive property

(d) Multiplicative property

15. A non-terminating, non-recurring decimal represents:

(a) A natural number

(b) A rational number

(c) An irrational number

(d) A prime number

Additional MCQ

16. The union of the set of rational numbers and irrational numbers is known as set of ___

(a) Rational number (b) Irrational

(c) Real number (d) Whole number

17. $\sqrt{3}.\sqrt{3}$ is a ___ number.

(a) Rational (b) Irrational

(c) Real (d) None

18. $\sqrt[n]{ab} =$ _____

(a) $\sqrt[n]{a}\,\sqrt[n]{b}$ (b) $\sqrt{a}\,\sqrt{b}$

(c) $\sqrt[n]{a}\,\sqrt{b}$ (d) $\sqrt{a}\,\sqrt[n]{b}$

19. $\sqrt[5]{-8} =$ - - - - - -

(a) $(-8)^{1/5}$ (b) $(-8)^5$

(c) (-8) (d) $(8)^{\frac{1}{5}}$

20. The value of i^{10} is:

(a) -1 (b) 1

(c) $-i$ (d) i

21. The conjugate of $2 + 3i$ is ___

(a) $2 - 3i$ (b) $-2 - 3i$

(c) $-2 + 3i$ (d) $2 + 3i$

22. Real part of $\left(-1 + \sqrt{-2}\right)^2$ is:

(a) -1 (b) $-2\sqrt{2}$

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

23. Imaginary part of $\left(-1 + \sqrt{-2}\right)^2$ is

(a) -1 (b) $-2\sqrt{2}$

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

24. $\frac{P}{q}$ **is a/an…….number**

(a) irrational (b) rational
(c) natural (d) whole

25. The value of *i* (iota) is_____

(a) $\sqrt{-1}$ (b) –1
(c) +1 (d) $(-1)^2$

26. In –2+3*i*, 3 is called _____

(a) imaginary part (b) real part
(c) negative part (d) complex number

27. The set of natural numbers is……

(a) {0,1,2,3….} (b) {2,4,6….}
(c) {1,2,3…..} (d) {2,3,5,7…}

28. π , e, $\sqrt{2}$, $\sqrt{3}$ and $\sqrt{5}$ are called…

(a) irrational numbers
(b) rational number
(c) natural numbers (d) real number

29. If $x+iy+1=4-3i$, then

(a) $x=4,\quad y=-3$
(b) $x=3,\quad y=3$
(c) $x=3,\quad y=-3$
(d) $x=5,\quad y=-3$

30. $\frac{p}{q}$ **form of** $0.\bar{3}$ **is _____.**

(a) $\frac{3}{10}$ (b) $\frac{1}{3}$
(c) 0.33 (d) $\frac{10}{3}$

1	**a**	**2**	**c**	**3**	**a**	**4**	**c**	**5**	**b**
6	**c**	**7**	**c**	**8**	**d**	**9**	**b**	**10**	**a**
11	**a**	**12**	**c**	**13**	**b**	**14**	**a**	**15**	**c**
16	**c**	**17**	**c**	**18**	**a**	**19**	**a**	**20**	**a**
21	**a**	**22**	**a**	**23**	**b**	**24**	**a**	**25**	**a**
26	**a**	**27**	**c**	**28**	**a**	**29**	**c**	**30**	**b**

Chapter#3

Q.1 Multiple Choice Questions. Choose the correct answer.

1. If $a^x = n$, then _____

(a) $a = \log_x n$ (b) $x = \log_n a$
(c) $x = \log_a n$ (d) $a = \log_n x$

2. The relation of $y = \log_z x$ implies

(a) $x^y = z$ (b) $z^y = x$
(c) $x^z = y$ (d) $y^z = x$

3. The logarithm of unity to any base is

(a) 1 (b) 10
(c) e (d) 0

4. The logarithm of any number to itself as base is___

(a) 1 (b) 0
(c) –1 (d) 10

5. log e = ____ where e ≈ 2. 718

(a) 0 (b) 0.4343
(c) ∞ (d) 1

6. The value of $\log\left(\frac{p}{q}\right)$ is ___

(a) log p –log q (b) $\frac{\log p}{\log q}$
(c) log p + log q (d) log q – log p

7. Logp – logq is same as:

(a) $\log\left(\frac{q}{p}\right)$ (b) $\log(p-q)$

(c) $\frac{\log p}{\log q}$ (d) $\log\frac{p}{q}$

8. $\log m^n$ can be written as

(a) $(\log m)^n$ (b) m log n

(c) n log m (d) log (m n)

9. $\log_b a \times \log_c b$ can be written as___

(a) $\log_c a$ (b) $\log_a c$

(c) $\log_a b$ (d) $\log_b c$

10. $\text{Log}_y x$ will be equal to___

(a) $\frac{\log_z x}{\log_y z}$ (b) $\frac{\log_x z}{\log_y z}$

(c) $\frac{\log_z x}{\log_z y}$ (d) $\frac{\log_{z\,y}}{\log_z x}$

Additional MCQ

11. For common logarithm, the base is_

(a) 2 (b) 10

(c) e (d) 1

12. For natural logarithm, the base is__

(a) 10 (b) e

(c) 2 (d) 1

13. The integral part of the common logarithm of a number is called the_

(a) Characteristic (b) Mantissa

(c) Logarithm (d) None

14. The decimal part of the common logarithm of a number is called the _____:

(a) Characteristic (b) Mantissa

(c) Logarithm (d) None

15. If x = log y, then y is called the _____ of x.

(a) Antilogarithm (b) Logarithm

(c) Characteristic (d) None

16. 30600 in scientific notation is __

(a) 3.06×10^4 (b) $3.006\ 10^4$

(c) 30.6×10^4 (d) 306×10^4

17. 6.35×10^6 in ordinary notation is___

(a) 6350000 (b) 635000

(c) 6350 (d) 63500

18. A number written in the form $a \times 10^n$, where $1 \le a < 10$ and n is an integer is called ____

(a) Scientific notation (b) Ordinary notation

(c) Logarithm notation (d) None

19. Common logarithm is also known as _____ logarithm.

(a) natural (b) simple

(c) scientific (d) decadic

20. $\log_a m + \log_a n$ is same as:

(a) $\log_a(m+n)$ (b) $\log_a m \times n$

(c) $\log_a m \times \log_a n$ (d) $\log_a \frac{m}{n}$

21. John Napier prepared the logarithms tables to the base _____.

(a) 0 (b) 1

(c) 10 (d) e

22. $\log_2^3$ in common logarithm is written as _____.

(a) $\frac{\log 3}{\log 2}$ (b) $\frac{\log 2}{\log 3}$

(c) $\frac{\log 3}{2}$ (d) $\log 2^3$

23. $\log_e 10$ = _____

(a) 2.3026 (b) 0.4343

(c) e^{10} (d) 10

24. If $\log_2^x = 5$ then x is:

(a) 25 (b) 32

(c) 10 (d) 2^{5x}

Answer

1	**c**	**2**	**b**	**3**	**d**	**4**	**a**	**5**	**b**	**6**	**a**	**7**	**d**	**8**	**c**
9	**a**	**10**	**c**	**11**	**b**	**12**	**b**	**13**	**a**	**14**	**b**	**15**	**a**	**16**	**a**
17	**a**	**18**	**a**	**19**	**d**	**20**	**d**	**21**	**d**	**22**	**a**	**23**	**a**	**24**	**b**

Chapter#4

Multiple Choice Questions. Choose the correct answer.

1. 4x + 3y – 2 is an algebraic___
(a) Expression (b) Sentence
(c) Equation (d) In equation

2. The degree of polynomial $4x^4+2x^2y$ is ____
(a)1 (b)2
(c)3 (d)4

3. $a^3 + b^3$ is equal to____
(a) $(a–b)(a^2+ab+b^2)$
(b) $(a+b)(a^2–ab + b^2)$
(c) $(a–b)(a^2–ab + b^2)$
(d) $(a–b)(a^2 + ab–b^2)$

4. $(3+\sqrt{2})(3-\sqrt{2})$ is equal to:___
(a) 7 (b) –7
(c) –1 (d) 1

5. Conjugate of Surd $a+\sqrt{b}$ is_
(a) $-a+\sqrt{b}$ (b) $a-\sqrt{b}$
(d) $\sqrt{a}+\sqrt{b}$ (d) $\sqrt{a}-\sqrt{b}$

6. $\frac{1}{a-b}-\frac{1}{a+b}$ is equal to
(a) $\frac{2a}{a^2-b^2}$ (b) $\frac{2b}{a^2-b^2}$
(c) $\frac{-2a}{a^2-b^2}$ (d) $\frac{-2b}{a^2-b^2}$

7. $\frac{a^2-b^2}{a+b}$ is equal to:
(a) $(a–b)^2$ (b) $(a+b)^2$
(c) a+b (d) a–b

8. $(\sqrt{a}+\sqrt{b})(\sqrt{a}-\sqrt{b})$ is equal to:__
(a)$a^2 + b^2$ (b) $a^2– b^2$
(c)a – b (d) a + b

Additional MCQ

9. The degree of the polynomial $x^2y^2+3xy+y^3$ is ___
(a) 4 (b) 5
(c) 6 (d) 2

10. x^2-4 = ……
(a) (x–2) (x+2) (b) (x–2) (x–2)
(c) (x +2) (x+2) (d) $(x-2)^2$

11. $x^3+\frac{1}{x^3}=\left(x+\frac{1}{x}\right)$(……)
(a) $x^2-1+\frac{1}{x^2}$ (b) $x^2+1+\frac{1}{x^2}$
(c) $x^2+1-\frac{1}{x^2}$ (d) $x^2-1-\frac{1}{x^2}$

12. $\frac{1}{2-\sqrt{3}}$ = ____
(a) $2+\sqrt{3}$ (b) $2-\sqrt{3}$
(d) $-2+\sqrt{3}$ (d) $-2-\sqrt{3}$

13. $(a+b)^2– (a–b)^2$ = _____
(a)$2(a^2 + b^2)$ (b)4ab
(c)2ab (d)3ab

14. A surd which contains a single term is called _____surd.
(a) Monomial (b) Binomial
(c) Trinomial (d) Conjugate

15. What is the leading coefficient of polynomial $3x^2+8x+5$?
(a) 2 (b) 3
(c) 5 (d) 8

16. A surd which contains two terms is called _____surd.
(a) Monomial (b) Binomial
(c) Trinomial (d) Conjugate

17. Which of the following is polynomial?
(a) $3x^2+\frac{1}{x}$ (b) $4x^2-3\sqrt{x}$
(c) $x^2-3x+\sqrt{2}$ (d) $2x^2+3x^{-1}$

18. $(3+\sqrt{3})(3-\sqrt{3})$ = _____
(a) 12 (b) 9
(c) 6 (d) 3

19. Which of the following is not surd?
(a) $\sqrt{2}$ (b) $\sqrt{3}$
(c) $\sqrt{2}+5$ (d) $\sqrt{\pi}$

20. In the polynomial with the variable x, all the powers of x are------ integers.
(a) non-negative (b) negative
(c) non-positive (d) none of these

21. Polynomial means an expression with:
(a) one term (b) two terms
(c) three terms (d) many term

1	a	2	d	3	b	4	a	5	b	6	b	7	d
8	c	9	a	10	a	11	a	12	a	13	b	14	a
15	b	16	b	17	c	18	c	19	d	20	a	21	d

Chapter#5 Factorization

1.The factor of x^2-5x+6 are: __

(a) $x+1, x-6$ (b) $x-2, x-3$

(c) $x+6, x-1$ (d) $x+2, x+3$

2.Factors of $8x^3+27y^3$ are:___

(a) $(2x+3y)(4x^2-9y^2)$

(b) $(2x-3y)(4x^2-9y^2)$

(c) $(2x+3y)(4x^2-6xy+9y^2)$

(d) $(2x-3y)(4x^2+6xy+9y^2)$

3.Factors of $3x^2-x-2$ are:

(a) $(x+1)(3x-2)$ (b) $(x+1)(3x+2)$

(c) $(x-1)(3x-2)$ (d) $(x-1)(3x+2)$

4.Factors of a^4-4b^4 are: ___

(a) $(a-b)(a+b)(a^2+4b^2)$

(b) $(a^2-2b^2)(a^2+2b^2)$

(c) $(a-b)(a+b)(a^2-4b^2)$

(d) $(a-2b)(a^2+2b^2)$

5.What will be added to complete the square of $9a^2-12ab$?___

(a) $-16b^2$ (b) $16b^2$

(c) $4b^2$ (d) $-4b^2$

6.Find m so that x^2+4x+m is a complete square:

(a) 8 (b) -8

(c) 4 (d) 16

7.Factors of $5x^2-17xy-12y^2$ are___

(a) $(x+4y)(5x+3y)$ (b) $(x-4y)(5x-3y)$

(c) $(x-4y)(5x+3y)$ (d) $(5x-4y)(x+3y)$

8.Factors of $27x^3-\frac{1}{x^3}$ are___

(a) $\left(3x-\frac{1}{x}\right)\left(9x^2+3+\frac{1}{x^2}\right)$

(b) $\left(3x+\frac{1}{x}\right)\left(9x^2+3+\frac{1}{x^2}\right)$

(c) $\left(3x-\frac{1}{x}\right)\left(9x^2-3+\frac{1}{x^2}\right)$

(d) $\left(3x+\frac{1}{x}\right)\left(9x^2-3+\frac{1}{x^2}\right)$

9.If $x-2$ is a factor of $p(x)=x^2+2kx+8$, then k = __

(a) -3 (b) 3

(c) 4 (d) 5

10.$4a^2+4ab+(.....)$ is a complete square

(a) b^2 (b) $2b$

(c) a^2 (d) $4b^2$

11. $\frac{x^2}{y^2}-2+\frac{y^2}{x^2}$ **= .....**

(a) $\left(\frac{x}{y}-\frac{y}{x}\right)^2$ (b) $\left(\frac{x}{y}+\frac{y}{x}\right)^2$

(c) $\left(\frac{x}{y}-\frac{y}{x}\right)^3$ (d) $\left(\frac{x}{y}+\frac{y}{x}\right)^3$

12.$(x+y)(x^2-xy+y^2)$ = ___

(a) x^3-y^3 (b) x^3+y^3

(c) $(x+y)^3$ (d) $(x-y)^3$

13.Factors of x^4-16 is ___

(a) $(x-2)^2$ (b) $(x-2)(x+2)(x^2+4)$

(c) $(x-2)(x+2)$ (d) $(x+2)^2$

14. Factors of $3x-3a+xy-ay$.

(a) $(3+y)(x-a)$ (b) $(3-y)(x+a)$

(c) $(3-y)(x-a)$ (d) $(3+y)(x+a)$

15.Factors of $pqr+qr^2-pr^2-r^3$ is:

(a) $r(p+r)(q-r)$ (b) $r(p-r)(q+r)$

(c) $r(p-r)(q-r)$ (d) $r(p+r)(q+r)$

16.What is the value of $p(x)=6x^4+2x^3-x+2$ at $x=0$?

(a) 9 (b) 8

(c) 2 (d) 7

17. x^2+5x+6 =

(a) $(x+1)(x-)$ (b) $(x-2)(x-3)$

(c) $(x+6)(x-1)$ (d) $(x+2)(x+3)$

18. $4a^2-16$ =

(a) $(2a+8)(2a-8)$

(b) $4(a+2)(a-2)$

(c) $4(a+2)^2$ (d) $4(a-2)^2$

19.How many factors of a cubic expression are there?

(a) zero (b) 1

(c) 2 (d) 3

20 $(x-y)(x^2+xy+y^2)$ = ___

(a) x^3-y^3 (b) x^3+y^3

(c) $(x+y)^3$ (d) $(x-y)^3$

Answer

1	b	2	c	3	d	4	b	5	c	6	c	7	c
8	a	9	a	10	a	11	a	12	b	13	b	14	a
15	a	16	c	17	d	18	b	19	d	20	a		

Chapter#6.

Q.1Choose the correct answer.

1.H.C.F of p^3q-pq^3 and $p^5q^2-p^2q^5$ is _

(a) $pq(p^2-q^2)$ (b) $pq(p-q$

(c) $p^2q^2(p-q)$ (d) $pq(p^3-q^3)$

2. H.C.F. of $5x^2y^2$ and $20\,x^3y^3$ is:___

(a) $5x^2y^2$ (b) $20\,x^3y^3$

(c) $100\,x^5y^5$ (d) $5xy$

3. **H.C.F of $x-2$ and x^2+x-6 is _**

(a) x^2+x-6 (b) $x+2$

(c) $x-2$ (d) $x+3$

4. **H.C.F of a^3+b^3 and a^2-ab+b^2 is**

(a) $a+b$ (b) a^2-ab+b^2

(c) $(a-b)^2$ (d) a^2+b^2

5.H.C.F of x^2-5x+6 and x^2-x-6 is __:

(a) $x-3$ (b) $x+2$

(c) x^2-4 (d) $x-2$

6.H.C.F of a^2-b^2 and a^3-b^3 is___

(a) $a-b$ (b) $a+b$

(c) a^2+ab+b^2 (d) a^2-ab+b^2

7.H.C.F of x^2+3x+2, x^2+4x+3, x^2+5x+4 is:

(a) $x+1$ (b) $(x+1)(x+2)$

(c) $(x+3)$ (d) $(x+4)(x+1)$

8.L.C.M of $15x^2$,45xy and 30 xyz is:

(a) 90 xyz (b) $90x^2yz$

(c) 15 xyz (d) $15x^2yz$

9.L.C.M of a^2+b^2 and a^4-b^4 is:__

(a) a^2+b^2 (b) a^2-b^2

(c) a^4-b^4 (d) $a-b$

10.The product of two algebraic expression is equal to the ___ of their H.C.F and L.C.M.

(a) Sum (b) Difference

(c) Product (d) Quotient

11.Simplify $\dfrac{a}{9a^2-b^2}+\dfrac{1}{3a-b}$

(a) $\dfrac{4a}{9a^2-b^2}$ (b) $\dfrac{4a-b}{9a^2-b^2}$

(c) $\dfrac{4a+b}{9a^2-b^2}$ (d) $\dfrac{b}{9a^2-b^2}$

12. **Simplify** $\dfrac{a^2+5a-14}{a^2-3a-18}\times\dfrac{a+3}{a-2}=$

(a) $\dfrac{a+7}{a-6}$ (b) $\dfrac{a+7}{a-2}$

(c) $\dfrac{a+3}{a-6}$ (d) $\dfrac{a-2}{a+3}$

13. Simplify $\dfrac{a^3-b^3}{a^4-b^4}\div\left(\dfrac{a^2+ab+b^2}{a^2+b^2}\right)=$

(a) $\dfrac{1}{a+b}$ (b) $\dfrac{1}{a-b}$

(c) $\dfrac{a-b}{a^2+b^2}$ (d) $\dfrac{a+b}{a^2+b^2}$

14.Simplify: $\left(\dfrac{2x+y}{x+y}-1\right)\div\left(1-\dfrac{x}{x+y}\right)$

(a) $\dfrac{x}{x+y}$ (b) $\dfrac{y}{x+y}$

(c) $\dfrac{y}{x}$ (d) $\dfrac{x}{y}$

15.The square root of $a^2 - 2a + 1$ is _

(a) $\pm(a+1)$ (b) $\pm(a-1)$

(c) $a-1$ (d) $a+1$

16.What should be added to complete the square of $x^4 + 64$?

(a) $8x^2$ (b) $-8x^2$

(c) $16x^2$ (d) $4x^2$

17. **The square root of $x^4 + \frac{1}{x^4} + 2$ is __**

(a) $\pm\left(x + \frac{1}{x}\right)$ (b) $\pm\left(x^2 + \frac{1}{x^2}\right)$

(c) $\pm\left(x - \frac{1}{x}\right)$ (d) $\pm\left(x^2 - \frac{1}{x^2}\right)$

18.The square root of $4x^2 - 12x + 9$ is:

(a) $\pm(2x - 3)$ (b) $\pm(2x + 3)$

(c) $(2x + 3)^2$ (d) $(2x - 3)^2$

19.L.C.M = ___

(a) $\frac{p(x)\times q(x)}{H.C.F}$ (b) $\frac{p(x)\times q(x)}{L.C.M}$

(c) $\frac{p(x)}{q(x)\times H.C.F}$ (d) $\frac{q(x)}{p(x)\times H.C.F}$

20.H.C.F. = ___

(a) $\frac{p(x)\times q(x)}{L.C.M}$ (b) $\frac{p(x)\times q(x)}{H.C.F}$

(c) $\frac{p(x)}{q(x)\times L.C.M}$ (d) $\frac{L.C.M}{p(x)\times q(x)}$

21.L.C.M x H.C.F =.....

(a) $p(x)\times q(x)$ (b) $p(x)\times H.C.F$

(c) $q(x)\times L.C.M$ (d) None

22. Any unknown expression may be found if ____ of them are known by using the relation

L.C.M x H.C.F = p(x) x q(x)

(a) Two (b) Three

(c) Four (d) None

23. The H.C.F of $x^2 - 4$, $x^2 + 4x + 4$ and $2x^2 + x - 6$ is:

L.C.M x H.C.F = p(x) x q(x)

(a) $x-2$ (b) $x+2$

(c) $(2x-3)$

(d) $(x-2)(x+2)(2x-3)$

24. $\frac{a+b}{a^2-b^2} \div \frac{a^2-ab}{a^2-2ab+b^2}$

(a) $\frac{a}{b}$ (b) $\frac{b}{a}$

(c) $\frac{1}{a}$ (d) a

25. If $A = \frac{a+b}{a-b}$, then $\frac{1}{A}$ is:

(a) $\frac{a-b}{a+b}$ (b) $\frac{a+b}{a-b}$

(c) $\frac{a-b}{a-b}$ (d) $\frac{a+b}{a+b}$

26. How many methods are used to find H.C.F of given expressions?

(a) one (b) two

(c) three (d) four

27. How many methods are used to find square root of given expression?

(a) one (b) two

(c) three (d) four

28. If $q(x).q(x) = p(x)$, then $q(x)$ is called _____ of $p(x)$.

(a) square (b) square root

(c) L.C.M. (d) H.C.F.

Answers.

1.	b	2.	a	3.	c	4.	b
5.	a	6.	a	7.	a	8.	b
9.	c	10.	c	11.	c	12.	a
13.	a	14.	d	15.	b	16.	c
17.	b	18.	a	19.	a	20.	a
21.	a	22.	b	23.	b	24.	c
25.	a	26.		27.		28.	

Chapter#7

Choose the correct answer:

1. **Which of the following is the solution of the inequality $3 - 4x \leq 11$?**
   (a) $x \geq -8$ (b) $x \geq -2$
   (c) $x \geq \frac{-14}{4}$ (d) None of these
2. **A statement involving any of the symbols <, > or ≤ or ≥ is called:**
   (a) Equation
   (b) Identity
   (c) Inequality
   (d) Linear equation
3. **x = _____ is a solution of the inequality $-2 < x < \frac{3}{2}$**
   (a) –5 (b) 3 (c) 0 (d) $\frac{5}{2}$
4. **If x is no larger than 10, then:**
   (a) $x \geq 8$ (b) $x \leq 10$
   (c) $x < 10$ (d) $x > 10$
5. **If the capacity c of an elevator is at most 1600 pounds, then_**
   (a) $c < 1600$ (b) $c \geq 1600$
   (c) $c \leq 1600$ (d) $c > 1600$
6. **x=0 is a solution of the inequality:**
   (a) $x > 0$
   (b) $3x + 5 < 0$
   (c) $x + 2 < 0$
   (d) $x - 2 < 0$
7. **The linear equation in one variable x is:**
   (a) $ax + b = 0$
   (b) $ax^2 + bx + c = 0$
   (c) $ax + by + c = 0$
   (d) $ax^2 + by^2 + c = 0$
8. **An inconsistent equation is that whose solution set is:**
   (a) Empty (b) Not empty
   (c) Zero (d) Positive
9. **$|x| = a$ is equivalent to:**
   (a) $x = a$ or $x = -a$
   (b) $x = \frac{1}{a}$ or $x = \frac{-1}{a}$
   (c) $x = a$ or $x = \frac{-1}{a}$
   (d) None of these
10. **A linear inequality in one variable x is:**
    (a) $a x + b > 0, \quad a \neq 0$
    (b) $ax^2 + bx + c < 0, a \neq 0$
    (c) $ax + by + c > 0, \quad a \neq 0$
    (d) $ax^2 + by^2 + c < 0, a \neq 0$
11. **Law of Trichotomy is …**
    $(a, b \in R)$
    (a) $a < b$ or $a = b$ or $a > b$
    (b) $a < b$ or $a = b$
    (c) $a < b$ or $a > b$
    (d) None of these
12. **Transitive law is____**
    (a) $a < b$ and $b < c$, then $a < c$
    (b) $a > b$ and $b < c$, then $a > c$
    (c) $a > b$ and $b < c$, then $a = c$
    (d) None of these
13. **If $a > b, c > 0$ then:**
    (a) $ac < bc$ (b) $ac > bc$
    (c) $ac = bc$ (d) $ac \leq bc$
14. **If $a > b, c > 0$ then:**
    (a) $\frac{a}{c} > \frac{b}{c}$ (b) $\frac{a}{c} < \frac{b}{c}$
    (c) $\frac{a}{c} = \frac{b}{c}$ (d) $\frac{b}{c} \neq \frac{b}{c}$
15. **If $a > b, c < 0$, then:**
    (a) $\frac{a}{c} < \frac{b}{c}$ (b) $\frac{a}{c} > \frac{b}{c}$
    (c) $\frac{a}{c} = \frac{b}{c}$ (d) $\frac{a}{c} \leq \frac{b}{c}$
16. **If $a, b \in R$ then: $b \neq 0$**
    (a) $\left|\frac{a}{b}\right| = \frac{|a|}{|b|}$ (b) $|ab| = \frac{|a|}{|b|}$
    (c) $|a + b| = |a| + |b|$
    (d) $|a - b| = |a| - |b|$
17. **When the variable in an equation occurs under a radical, the**

equation is called a _____ equation.

(a) Radical (b) Absolute value
(c) Linear (d) None of these

18. **$|x| = 0$ has only ___ solution.**

(a) one (b) two
(c) three (d) none of these

19. **The equation $|x| = 2$ is equivalent to:**

(a) $x = 2 \text{ or } x = -2$

(b) $x = -2 \text{ or } x = -2$

(c) $x = 2 \text{ or } x = \frac{1}{2}$

(d) $x = 2 \text{ or } x = \frac{-1}{2}$

20. **An __ is equation that is satisfied by every number for which both sides are defined:**

(a) Identity (b) Conditional
(c) Inconsistent (c) In equation

21. **An__ equation is an equation whose solution set is the empty set:**

(a) Identity (b) Conditional
(c) Inconsistent (d) None

22. **A _ equation is an equation that is satisfied by atleast one number but is not an identity:**

(a) Identity (b) Conditional
(c) Inconsistent (d) None

23. **x + 4 = 4 + x is _ equation:**

(a) Identity (b) Conditional
(c) Inconsistent (d) None

24. **2x + 1 = 9 is ___ equation:**

(a) Identity (b) Conditional
(c) Inconsistent (d) None

25. **x = x + 5 is ___ equation:**

(a) Identity (b) Conditional
(c) Inconsistent (d) None

26. **Equations having exactly the same solution are called ___ equations.**

(a) equivalent (b) Linear
(c) Inconsistent (c) In equations

27. **A solution that does not satisfy the original equation is called ____ solution:**

(a) Extraneous (b) Root
(c) General (d) Proper

ANSWER

1.	b	2.	c	3.	c	4.	b
5.	c	6.	d	7.	a	8.	a
9.	a	10.	a	11.	a	12.	a
13.	b	14.	a	15.	a	16.	a
17.	a	18.	a	19.	a	20.	a
21.	c	22.	c	23.	a	24.	b
25.	c	26.	a	27.	a		

CHAPTER # 8

Q. Chose the correct answers.

1. If (x–1, y+1) = (0, 0), then (x, y) is:
(a) (1, −1) (b) (−1, 1)
(c) (1, 1) (d) (−1, −1)

2. If (x, 0) = (0, y), then (x, y) is:
(a) (0, 1) (b)(1, 0)
(c) (0, 0) (d)(1, 1)

3. Point (2 –3) lies in quadrant:
(a) I (b) II
(c) III (d) IV

4. Point (–3, –3) lies in quadrant:
(a) I (b) II
(c) III (d) IV

5. If y = 2x + 1, x = 2 then y is:
(a) 2 (b) 3
(c) 4 (d) 5

6. Which ordered pair satisfy the equation y = 2x:
(a) (1, 2) (b) (2, 1)
(c) (2, 2) (d) (0, 1)

7. The real numbers x, y of the ordered pair (x, y) are called _____ of point P(x,y) in a plane.
(a) co-ordinates(b) x co-ordinates
(b) y-coordinates(d) ordinate

8. Cartesian plane is divided into __ quadrants.
(a) Two (b) Three
(c) Four (d) Five

9. The point of intersection of two coordinate axes is called:
(a) Origin (b) Centre
(c) X-coordinate (d) y-coordinate

10. The x-coordinate of a point is called__
(a) Origin (b) abcissa
(c) y-coordinate (d) Ordinate

11. The y-coordinate of a point is called:
(a) Origin (b) x-coordinate
(c) y-coordinate (d) ordinate

12. The set of points which lie on the same line are called ___ points.
(a) Collinear (b) Similar
(c) Common (d) None of these

13. The plane formed by two straight lines perpendicular to each other is called: (a) Cartesian plane
(b) Coordinate axes
(c) Plane (d) None of these

14. An ordered pair is a pair of elements in which elements are written in specific:
(a) Order (b) Array
(c) Point (d) None

15. Point $(-1,2)$ lies in quadrant.
(a) I (b) II
(c) III (d) IV

16. Point $(1,1)$ lies in quadrant.
(a) I (b) II
(c) III (d) IV

17. Point $(1,-3)$ lies in quadrant.
(a) I (b) II
(c) III (d) IV

18. Which of the following points is on the origin?
(a) $(0,0)$ (b) $(-2,-3)$
(c) $(0,2)$ (d) $(4,0)$

19. Which of the following lines is parallel to x-axis?
(a) $x=0$ (b) $x=-3$
(c) $x=3$ (d) $y=-3$

20. Which of the following lines is parallel to y-axis?
(a) $y=2x$ (b) $x=-3$
(c) $y=3$ (d) $y=4x+1$

1.	a	2.	c	3.	d	4.	c
5.	d	6.	a	7.	a	8.	c
9.	a	10.	b	11.	d	12.	a
13.	a	14.	a	15.	b	16.	a
17.	d	18.	c	19.	a	20.	a

CHAPTER # 9

Q.1 Choose the correct answer

1. **Distance between points (0, 0) and (1, 1) is:**
   (a) 0 (b) 1
   (c) $\sqrt{2}$ (d) 2
2. **Distance between the points (1, 0) and (0, 1) is:**
   (a) 0 (b) 1
   (c) $\sqrt{2}$ (d) 2
3. **Mid-point of the points (2, 2) and (0,0) is:**
   (a) (1, 1) (b) (1, 0)
   (c) (0, 1) (d) (–1, –1)
4. **Mid-point of the points (2, –2) and (–2, 2) is:**
   (a) (2, 2) (b) (–2, –2)
   (c) (0, 0) (d) (1, 1)
5. **A triangle having all sides equal is called:**
   (a) Isosceles (b) Scalene
   (c) Equilateral (d) None of these
6. **A triangle having all sides different is called:**
   (a) Isosceles (b) Scalene
   (c) Equilateral (d) None of these
7. **The points P, Q and R are collinear if:**
   (a) $|PQ|+|QR|=|PR|$
   (b) $|PQ|-|QR|=|PR|$
   (c) $|PQ|+|QR|=0$
   (d) None of these
8. **The distance between two points P(x_1, y_1) and Q (x_2, y_2) in the coordinate plane is: d > 0**
   (a) $d=\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$
   (b) $d=\sqrt{(x_1-x_2)^2-(y_1-y_2)^2}$
   (c) $d=\sqrt{(x_2-x_1)^2-(y_2-y_1)^2}$
   (d) $d=\sqrt{(x_1+x_2)^2-(y_1+y_2)^2}$
9. **A triangle having two sides equal is called:**
   (a) Isosceles (b) Scalene
   (c) Equilateral (d) None of these
10. **A right angled triangle is that in which one of the angles has measure equal to:**
    (a) 80^o (b) 90^o
    (c) 45^o (d) 60^o
11. **In a right angled triangle ABC, where m $\angle$ACB = 90^0.**
    (a) $|AB|^2=|BC|^2+|CA|^2$
    (b) $|AB|^2=|BC|^2-|CA|^2$
    (c) $|AB|^2+|BC|^2>|CA|^2$
    (d) $|AB|^2-|BC|^2>|CA|^2$
12. **In a ΔABC, if $|\overline{AB}|=|\overline{BC}|=|\overline{CA}|$, the triangle will be:**
    (a) isosceles (b) scalene
    (c) equilateral (d) right-angled
13. **If three or more than three points lie on the same line then points are called _____.**

(a) non-collinear (b) collinear
(c) parallel (d) perpendicular

14. A _____ has two end points. 09309076
(a) line (b) line segment
(c) ray (d) triangle

15. A line segment has __ midpoint. 09309077
(a) one (b) two
(c) three (d) four

16. Each side of triangle has ____ collinear vertices. 09309078
(a) one (b) two
(c) three (d) four

Answers:

1.	**c**	**2.**	**c**	**3.**	**a**	**4.**	**c**
5.	**c**	**6.**	**b**	**7.**	**a**	**8.**	**a**
9.	**a**	**10.**	**b**	**11.**	**a**	**12.**	**c**
13.	**b**	**14.**	**b**	**15.**	**a**	**16.**	**b**

CH#10 CONGRUENT TRIANGLE

Choose the correct answer.

1. _____ triangle is an equiangular triangle.
(a) A scalene (b) An isosceles
(c) An equilateral (d) A right angled

2. A _____ has two end points
(a) line (b) line segment
(c) ray (d) angle

3. Three points are said to be collinear, if they lie on the same:
(a) plane (b) line
(c) interior (d) area

4. Two lines can intersect at:
(a) one point (b) two points
(c) no point (d) infinite point

5. Two _____ lines cannot intersect each other:
(a) perpendicular (b) parallel
(c) non-parallel (d) coplanar

6. All the medians of _____ triangle are equal in measure.
(a) a scalene
(b) an isosceles
(c) an equilateral
(d) a right angled

7. If two angles of a triangle are congruent then the sides opposite to them are
(a)congruent (b) equal
(c)non congruent (d) similar

8. Symbol for congruent is:
(a) $\longleftrightarrow$ (b) N
(c) $\cong$ (d) =

9. Symbol for correspondence is
(a) $\longleftrightarrow$ (b) N
(c) $\cong$ (d) =

10. How many end points has a ray?
(a) 1 (b) 2
(c) 3 (d) 4

11. Symbolically two congruent triangles ABC and PQR are written as:
(a) $\Delta ABC = \Delta PQR$
(b) $\Delta ABC \sim \Delta PQR$
(c) $\Delta ABC \cong \Delta PQR$
(d) $\Delta ABC \neq \Delta PQR$

12. Which of the following is postulate?
(a) $S.S.S \cong S.S.S$
(b) $S.A.A \cong S.A.A$
(c) $H.S \cong H.S$
(d) $S.A.S$

13. If sum of measures of two angles is 180^o then angles are ____ angles.
(a) Complementary (b) Supplementary
(c) Equal (d) Right

14. If sum of measure of two angles is 90^o then angles are _____ angles.
(a) Complementary (b) Supplementary
(c) Congruent (d) Acute

15. Hypotenuse is a side opposite to _____ in right angled triangle.

(a) 30^o (b) 60^o
(c) 90^o (d) 120^o

16. In equilateral triangle each angle is of _____.

(a) 30^o (b) 60^o
(c) 90^o (d) 180^o

17. Corresponding sides of congruent triangles are:

(a) equal (b) different
(c) perpendicular (d) parallel

18. Median bisecting the base angle of an isosceles triangle bisects the _____ angle.

(a) base (b) vertical
(c) right (d) acute

19. The median bisecting the base of an isosceles triangle is ___ to the base.

(a) parallel (b) perpendicular
(c) collinear (d) adjacent

20. Corresponding angles of congruent triangles are:

(a) congruent (b) non-congruent
(c) unequal (d) supplementary

21. Any two medians of an ____ triangle equal is measure.

(a) isosceles (b) equilateral
(c) acute (d) obtuse

22. Sum of all the interior angles of a triangle is.

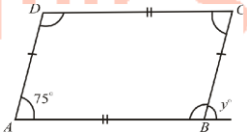
a) 90^o b) 150^o
c) 180^o **d)** 360^o

1	**c**	**2**	**b**	**3**	**b**	**4**	**a**	**5**	**b**	**6**	**c**	**7**	**a**	**8**	**C**
9	**a**	**10**	**a**	**11**	**c**	**12**	**d**	**13**	**b**	**14**	**a**	**15**	**c**	**16**	**b**
17	**a**	**18**	**b**	**19**	**b**	**20**	**a**	**21**	**b**	**22**	**c**				

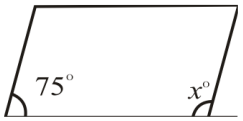
CHAPTER#11

PAALLELOGRAMS AND TRIANGLES

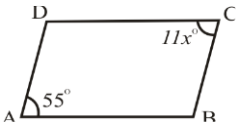
1. **In a parallelogram opposite sides are…**
   (a) different (b) perpendicular
   (c) congruent (d) intersecting
2. **In a parallelogram opposite angles are …….**
   (a)parallel (b) congruent
   (c)complementary (d)adjacent
3. **Diagonals of a parallelogram …….. each other at a point**
   (a)perpendicular to (b) intersect
   (c)equal to (d) parallel to
4. **Medians of triangle are…….**
   (a)equal (b) concurrent
   (c)congruent (d) parallel
5. **Diagonal of a parallelogram divides the parallelogram into ……. triangles.**
   (a) two equal (b) two different
   (c) three different (d) three equal
6. **In a parallelogram shown in fig. y^o = ……**



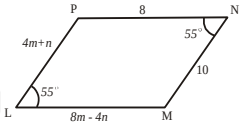
   (a) 115^o (b) 90^o
   (c) 75^o (d) 105^o
7. **In a parallelogram shown in fig. x^o = ……**



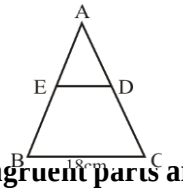
   (a) 115^o (b) 90^o
   (c) 75^o (d) 105^o
8. **In a parallelogram shown in fig. x^o……**



   (a) 55^o (b) 5^o
   (c) 44^o (d) 125^o
9. **In a parallelogram shown in fig. m=……**



   (a) 8 (b) 10
   (c) 2 (d) 4
10. **In ΔABC $\overline{ED} \| \overline{BC}$ E and D are midpoints of the sides $\overline{AB}$ and $\overline{AC}$ respectively. Find the value of m $\overline{DE}$.**



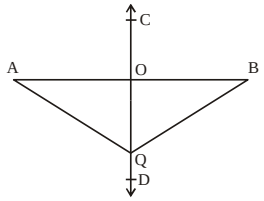
   (a) 6cm (b) 9cm
   (c) 18cm (d) 10cm
11. **In parallelogram congruent parts are:**
   (a) Opposite sides (b) Diagonals
   (c) Opposite angles
   (d) Opposite sides and angles
12. **Alternate angles on parallel lines intersected by a transversal are_____.**
   (a) Congruent
   (b) Non-congruent
   (c) Complementary
   (d) Supplementary

ANSWERS

1.	**c**	**2.**	**b**	**3.**	**b**	**4.**	**b**
5.	**a**	**6.**	**c**	**7.**	**d**	**8.**	**b**
9.	**c**	**10.**	**b**	**11.**		**12.**	

CH#12 LINE BISECTOR AND ANGLE BISECTORS

1. **Bisection means to divide into ___ equal parts**
   (a) Two (b) Three
   (c) Four (d) Five
2. **__ of line segment means to draw perpendicular which passes through the midpoint of line segment.**
   (a) Right bisection (b) Bisection
   (c) Congruent (d) Mid-point
3. **Any point on the _____ of a line segment is equidistant from its end points:**
   (a) Right bisector (b) Median
   (b) Angle bisector (d) Altitude
4. **Any point equidistant from the end points of line segment is on the ____ of it:**
   (a) Right bisector (b) Median
   (b) Angle bisector (d) Altitude
5. **The bisectors of the angles of a triangle are:**
   (a) Concurrent (b) Congruent
   (c) Parallel (d) None
6. **Bisection of an angle means to draw a ray to divide the given angle into ___ equal parts:**
   (a) Four (b) Three
   (c) Two (d) Five
7. **If $\overleftrightarrow{CD}$ is right bisector of line segment $\overline{AB}$ then: (i)** $m\overline{OA} =$
   (a) $m\overline{OQ}$ (b) $m\overline{OB}$
   (c) $m\overline{AQ}$ (d) $m\overline{BQ}$



8. **If $\overleftrightarrow{CD}$ is right bisector of line segment $\overline{AB}$, then** $m\overline{AQ} =$____
   (a) $m\overline{OA}$ (b) $m\overline{OB}$
   (c) $m\overline{BQ}$ (d) $m\overline{OD}$
9. **The right bisectors of the sides of an acute triangle intersects each other ___ the triangle.**
   (a) Inside (b) Outside
   (c) Midpoint (d) None
10. **The right bisectors of the sides of a right triangle intersect each other on the ___**
    (a) Vertex (b) Midpoint
    (c) Hypotenuse (d) None
11. **The right bisectors of the sides of an obtuse triangle intersect each other ___ the triangle.**
    (a) Outside (b) Inside
    (c) Midpoint (d) None
12. **The point of line segment through which the right bisector passes is called its _____ point.**
    (a) end (b) mid
    (c) non-collinear (d)trisection
13. **The point of intersection of right bisectors of sides of a triangle is equidistant from the ____ of triangle.**
    (a) sides (b) vertices
    (c) centre (d) angles
14. **The altitudes of a triangle are _____.**
    (a) congruent (b) concurrent
    (c) equal (d) parallel

ANSWERS

1.	a	**2.**	a	**3.**	a	**4.**	a	**5.**	a
6.	c	**7.**	b	**8.**	c	**9.**	a	**10.**	c
11.	a	**12.**	b	**13.**	c	**14.**	b		

CH#13 SIDES AND ANGLES OF A TRIANGLE

1. Which of the following sets of lengths can be the lengths of the sides of a triangle:
(a) 2cm, 3cm, 5cm
(b) 3cm, 4cm, 5cm
(c) 2cm, 4cm, 7cm
(d) 1cm, 2cm, 3cm

2. Two sides of a triangle measure 10cm and 15cm. Which of the following measure is possible for the third side
(a) 5cm (b) 20cm
(c) 25cm (d) 30cm

3. The angle opposite to the longer side is:
(a) Greater (b) Shorter
(c) Equal (d) None

4. In right angle triangle greater angle of:
(a) 60^o (b) 30^o
(c) 75^o (d) 90^o

5. In an isosceles right-angled triangle angles other than right angle are each of:
(a) 40^o (b) 45^o
(c) 50^o (d) 55^o

6. A triangle having two congruent sides is called ___ triangle.
(a) Equilateral
(b) Isosceles
(c) Right
(d) None

7. Perpendicular to line form an angle of __
(a) 30^o (b) 60^o
(c) 90^o (d) 120^o

8. Sum of two sides of triangle is ___ than the third.
(a) Greater (b) Smaller
(c) Equal (d) None

9. The distance between a line and a point on it is ___
(a) Zero (b) One
(c) Equal (d) None

10. The difference of two sides of a triangle is ___ the third side.
(a) greater than (b) smaller than
(c) equal to (d) congruent to

11. In a triangle, the side opposite to greater angle is_____.
(a) smaller (b) greater
(c) equal (d) congruent

12. In a triangle the angles opposite to congruent sides are ____.
(a) congruent (b) concurrent
(c) unequal (d)non-congruent

13. In a triangle, the side opposite to smaller angle is ____.
(a) smaller (b) greater
(c) congruent (d) concurrent

14. An exterior angle of a triangle is ___ non-adjacent interior angle.

(a) equal to (b) smaller than
(c) greater than (d) congruent to

15. For a ΔABC, which of the following is true?

(a) $m\overline{AB} + m\overline{BC} < m\overline{CA}$
(b) $m\overline{AB} - m\overline{BC} > m\overline{CA}$
(c) $m\overline{AB} + m\overline{BC} > m\overline{CA}$
(d) $m\overline{AB} + m\overline{BC} \not> m\overline{CA}$

16. What is the supplement of a right angle?

(a) 60^o (b) 90^o
(c) 120^o (d) 180^o

17. The sum of the measures of two sides of a triangle is greater than_____ the measure of the median which bisects the third side.

(a) twice (b) thrice
(c) hypotenuse (d) angles

18. In an obtuse angled triangle, the side opposite to the obtuse angle is ____ than each of the other two sides.

(a) smaller (b) longer
(c) twice (d) thrice

ANSWERS

1.	b	2.	b	3.	a	4.	d	5.	b	6.	b
7.	c	8.	a	9.	a	10.	b	11.	b	12.	a
13.	a	14.	c	15.	c	16.	b	17.	a	18.	b

CH#14 RATIO AND PROPORTION

1. One and only one line can be drawn through ___ points.

(a) Two (b) Three
(c) Four (d) Five

2. The ratio between two alike quantities is defined as:

(a) a : b (b) b - a
(c) a : b = c : d (d) a + b

3. If a line segment intersects the two sides of a triangle in the same ratio then it is parallel to the __ side.

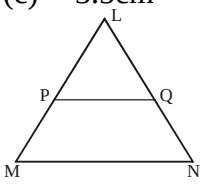
(a) Third (b) Fourth
(c) Second (d) None

4. Two triangles are said to be similar if these are equiangular and their corresponding sides are

(a) Proportional (b) congruent
(c) concurrent (d) None

5. In ΔLMN shown in the figure $\overline{MN} \parallel \overline{PQ}$ if $m\overline{LM}$ = 5cm, $m\overline{LP}$ = 2.5cm, $m\overline{LQ}$ = 2.3cm then $m\overline{LN}$ = ___ :

(a) 4.6cm (b) 4.5cm
(c) 3.5cm (d) 4.0



6. A line segment has _____mid-point
(a) only one (b) only two
(c) only three (d) infinite

7. Ratio has no
(a) value (b) symbol
(c) unit (d) importance

8. Statement of equality of two ratios is called …….
(a) double ratio (b) simple ratios
(c) proportion (d) Relation

9. The symbol used for similarity is……
(a) = (b) ≅
(c) :: (d) $\not\cong$

10. The symbol used for congruency is …..
(a) = (b) ≅
(c) :: (d) $\not\cong$

11. The symbol used for ratio is …….
(a) :: (b) ≅
(c) ~ (d) :

12. The ratio between two alike quantities has no……
(a) value (b) symbol
(c) unit (d) importance

13. The symbol used for line AB is ……
(a) AB (b) $\overline{AB}$
(c) $\overleftrightarrow{AB}$ (d) $\overrightarrow{AB}$

14. The symbol used for ray AB is …….
(a) AB (b) $\overline{AB}$
(c) $\overleftrightarrow{AB}$ (d) $\overrightarrow{AB}$

15. The symbol used for line segment AB is …….
(a) AB (b) $\overline{AB}$
(c) $\overleftrightarrow{AB}$ (d) $\overrightarrow{AB}$

16. $\overleftrightarrow{AB}$ stands for ……..
(a) line AB (b) Ray AB
(c) line segment AB (d) points AB

17. Proportion is a equality of …… ratios.
(a) Two (b) Three
(c) Four (d) Five

18. Similar triangles are of the same shape but …… in sizes.
(a) The same (b) Different
(c) Both (a) and (b)
(d) None of these

19. ⊥ is the symbol of:
(a) equal (b) parallel
(c) perpendicular (d) congruent

ANSWERS:

1.	a	2.	a	3.	a	4.	a	5.	a
6.	a	7.	c	8.	c	9.	c	10.	b
11.	d	12.	c	13.	c	14.	d	15.	b
16.	a	17.	a	18.	b	19.	c	20.	

CHAPTER NO #15

Choose the correct answer:

1. In a right angled triangle, the square of the length of hypotenuse is equal to the____ of the squares of the lengths of the other two sides.

(a) Sum (b) Difference
(c) Zero (d) None of these

2.If the square of one side of a triangle is equal to the sum of the squares of the other two sides then the triangle is a ____ triangle.

(a) Right angled (b)Acute angled
(c) Obtuse angled (d)None of these

3. Let c be the longest of the sides a, b and c of a triangle. If $a^2 + b^2 = c^2$, then the triangle is ___:

(a) Right (b) Acute
(c) Obtuse (d) None of these

4..Let c be the longest of the sides a, b and c of a triangle. If $a^2 + b^2 > c^2$ then triangle is:

(a) Acute (b) Right
(c) Obtuse (d) None of these

5.Let c be the longest of the sides a, b and c of a triangle. If $a^2 + b^2 < c^2$, then the triangle is:

(a) Acute (b) Right
(c) Obtuse (d) None of these

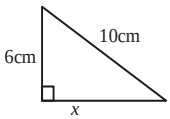
6.If 3cm and 4cm are two sides of a right angled triangle, then hypotenuse is;

(a) 5cm (b) 3cm
(c) 4cm (d) 2cm

7. In right triangle ____ is a side opposite to right angle.

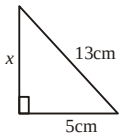
(a) Base (b) Perpendicular
(c) Hypotenuse (d) None

8.In the fig.



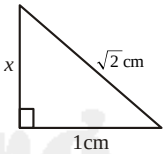
(a) x = 6cm (b) x = 8cm
(c) x = 10cm (d) x = 16cm

9.In the fig.



(a) x = 5cm (b) x = 8cm
(c) x = 12cm (d) x = 18cm

10.In the fig.



(a) x = 2cm (b) x = 1cm
(c) $x = \sqrt{2}cm$ (d) x = 3cm

11.In right angled triangle greater angle is _____.

(a) 30^o (b) 60^o
(c) 90^o (d) 120^o

12.In right angled triangle on angle is 90^o and other two angles are_____

(a) obtuse (b) acute
(c) right (d) supplementary

13.If hypotenuse of an isosceles right angled triangle is $\sqrt{2}$ then each of other side is:

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

14.In right angled triangle which side is the longest side?

(a) perpendicular (b) base
(c) hypotenuse (d) none of these

15.In right angled triangle if $m\angle B = 90^o$ then which of the following is true?

(a) $a^2 + b^2 = c^2$ (b) $a^2 + c^2 = b^2$
(c) $b^2 + c^2 = a^2$ (d) $a^2 - c^2 = b^2$

16.In a Isosceles right angled triangle two acute angles are equal to:

(a) 30^o (b) 45^o
(c) 60^o (d) 90^o

1.	a	2.	a	3.	a	4.	a
5.	c	6.	a	7.	c	8.	b
9.	c	10.	b	11.	c	12.	b
13.	a	14.	c	15.	b	16.	b

CHAPTER#16

1. The region enclosed by the bounding lines of a closed figure is called the __ of the figure:
(a) Area (b) Circle
(c) Boundary (d) None

2. Base × altitude =
(a) Area of parallelogram
(b) Area of square
(c) Area of Rectangular
(d) Area of Triangle

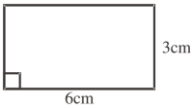
3. The union of a rectangle and its interior is called:
(a) Circle region
(b) Rectangular region
(c) Triangle region (d) None

4. If a is the side of a square, its area will be equal to…
(a) a square unit (b) a^2 square units
(c) a^3 square units (d) a^4 square units

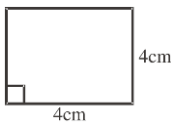
5. The union of a triangle and its interior is called as:
(a) Triangular region
(b) Rectangular region
(c) Circle region (d) None of these

6. Altitude of a triangle means perpendicular distance to base from its opposite___
(a) Vertex (b) Side
(c) Midpoint (d) None

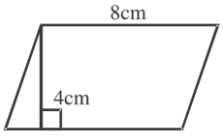
7. Area of given figure is…….
(a) 18cm
(b) 9cm
(c) $18cm^2$
(d) $9cm^2$



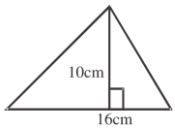
8. Area of given figure is……
(a) 4cm
(b) $8cm^2$
(c) 16cm
(d) $16cm^2$



9. Area of given figure is……
(a) $4cm^2$
(b) $12cm^2$
(c) 32cm
(d) $32cm^2$



10. Area of given figure is….
(a) $160cm^2$
(b) $80cm^2$
(c) 80cm
(d) 160cm



11. Area of triangle is ……
(a) $A = \frac{1}{2}$ Base × Height
(b) A = Base × Height
(c) A = L × w
(d) $A = L^2$

12. Area of square is ……
(a) $A = \frac{1}{2}$ Base × Height
(b) A = Base × Height
(c) A = L × w
(d) $A = L^2$

13. Area of rectangle is ……
(a) $A = \frac{1}{2}$ Base × Height
(b) A = Base × Height
(c) A = L × w
(d) $A = L^2$

14. Area of parallelogram is …
(a) $A = \frac{1}{2}$ Base × Height
(b) A = Base × Height

(c) $A = L \times w$
(d) $A = L^2$

15. If the length and breadth of a rectangle are 'a' and 'b' then its area will be:
(a) a + b (b) a×b
(c) $a - b$ (d) a = b

16. In most cases similar figures have _____ areas.
(a) same (b) different
(c) equal (d) congruent

17. All congruent figures have _____ areas.
(a) same (b) different
(c) zero (d) non-congruent

18. Area of a geometrical figure is always ___ real number.
(a) zero (b) positive
(c) negative (d) rational

Answers:

1	a	2	a	3	b	4	b	5	a	6	a	7	c	8	d	9	d
10	b	11	a	12	d	13	c	14	b	15	b	16	b	17	a	18	b

CHAPTER#17

1. A triangle having two sides congruent is called: ___
(a)Scalene (b)Right angled
(c)Equilateral (d)Isosceles

2. A quadrilateral having each angle equal to 90º is called ____
(a) Parallelogram (b)Rectangle
(c) Trapezium (d)Rhombus

3. The right bisectors of the three sides of a triangle are ___
(a)Congruent (b)Collinear
(c)Concurrent (d)Parallel

4. The __ altitudes of an isosceles triangle are congruent:
(a) Two (b)Three
(c) Four (d)None

5. A point equidistant from the end points of a line segment is on its __
(a) Bisector
(b) Right bisector
(c) Perpendicular
(d) Median

6. ___ congruent triangles can be made by joining the mid points of the sides of a triangle:
(a)Three (b) Four
(c)Five (d) Two

7. The diagonals of a parallelogram ___ each other:
(a) Bisect
(b) Trisect
(c) Bisect at right angle
(d) None of these

8. The medians of a triangle cut each other in the ratio:
(a)4:1 (b) 3:1
(c)2:1 (d) 1:1

9. One angle on the base of an isosceles triangle is 30º. What is the measure of its vertical angle:
(a)30º (b) 60º
(c)90º (d) 120º

10. If the three altitudes of a triangle are congruent then the triangle is _
(a) Equilateral (b) Right angled
(c)Isosceles (d) Acute angled

11. If two medians of a triangle are congruent then the triangle will be:
(a)Isosceles (b)Equilateral
(c)Right angled (d)Acute angled

12. A line segment joining a vertex of a triangle to the midpoint of its opposite

side is called a ___ of the triangle:**
(a)Altitude (b)Median
(c)Angle bisector (d)Right bisector

13. A line segment from a vertex of triangle perpendicular to the line containing the opposite side, is called an __ of the triangle:
(a)Altitude (b) Median
(c)Angle bisector (d) Right bisector

14. The point of concurrency of the three altitudes of a Δ is called its __
(a)Ortho centre (b)In centre
(c)Circumcentre (d)None

15. The internal bisectors of the angles of a triangle meet at a point called the _______ of the triangle:
(a)In centre (b)Ortho centre
(c) Circumcentre (c)None

16. The point of concurrency of the three perpendicular bisectors of the sides of
(c) Midpoint of base (d) Vertical angle

21. The triangles are said to be ….. if they are equiangular.
(a) Congruent (b) Similar
(c) Equal (d) Scalene

22. All the ….. right bisectors of sides of triangle are concurrent.
(a) One (b) Two
(c) Three (d) Four

23. All the three bisectors of angles of triangle are……
(a) Congruent (b) Concurrent
(c) Parallel (d) Perpendicular

24. All the three medians of a triangle are……..
(a) Congruent (b) Concurrent
(c) Parallel (d) Perpendicular

25. All the three altitudes of a triangle are………
(a)Congruent
(b) Concurrent
(c)Parallel
(d) Perpendicular

a triangle is called the ____ of the triangle.
(a) Circumcentre (b)In centre
(c) Ortho centre (d)None

17. Point of concurrency of three medians of a triangle is called.
(a) In centre three (b) Ortho centre
(c) Centroid (d) Circumcentre

18. Sum of interior angles of a triangle is ……
(a) 60^o (b) 120^o
(c) 180^o (d) 240^o

19. The side opposite to right angle in right angled triangle is called….
(a) Base (b) Perpendicular
(c) Hypotenuse (d) Altitude

20. The altitudes of a right angled triangle are concurrent at the …..
(a) Midpoint of hypotenuse
(b) Vertex of right angle

26. In-centre is the point of concurrency of three….. of triangle.
(a) Right bisectors (b) Angle bisectors
(c) Altitudes (d) Medians

27. Circumcentre is point of concurrency of three of three….. of triangle.
(a) right bisectors (b) angle bisectors
(c) altitudes (d) medians

28. Centroid is the point of concurrency of three….. of triangle.
(a) right bisectors (b) angle bisectors
(c) altitudes (d) medians

29. Three or more than three lines passing through the same point are called …… Lines.
(a) congruent
(b) concurrent
(c) parallel
(d) perpendicular

30. The common point of three or more than three lines is called……
(a) central point
(b) point of concurrency
(c) vertex

(d) centroid

31.In right-angled triangle if one angle is 30^o, then other angle will be…..:

(a) 15^o (b) 30^o

(c) 45^o (d) 60^o

32.In right-angled triangle if one angle is 60^o, then other angle will be…..:

(a) 15^o (b) 30^o

(c) 45^o (d) 6

ANSWERS:

1.	d	2.	b	3.	c	4.	a	5.	b	6.	b	7.	a	8.	c
9.	d	10.	a	11.	a	12.	b	.13.	a	14.	a	15.	a	16.	a
17.	c	18.	c	19.	c	20.	b	21.	b	22.	c	23.	b	24.	b
25.	b	26.	b	27.	a	28.	d	29.	b	30.	b	31.	d	32	b