

**Class 11 Mathematics**  
**FBISE Paper 2018 Local**  
**Solved MCQs**

1. What is the value of  $i^{13}$  ?  
A.  $-i$                       **B.**  $i$                       C.  $1$                       D.  $-1$
2. How many inverse elements correspond to each element of group?  
A. At least two              **B.** Only one                      C. At least one              D. Two
3. If A is any matrix of order  $m \times n$  then minor of matrix of any one element has order:  
A.  $m \times n$                       **B.**  $(m-1) \times n$   
C.  $m \times (n-1)$                       **D.**  $(m-1) \times (n-1)$
4. What is the value of  $(-1 + \sqrt{3}.i)^4 + (-1 - \sqrt{3}.i)^4$  ?  
A.  $16$                       **B.**  $-16$                       C.  $4$                       D.  $-4$
5. The partial fraction of  $\frac{1}{1+x^3}$ , will be in the form of:  
A.  $\frac{A}{1-x} + \frac{Bx+C}{1+x+x^2}$                       B.  $\frac{A}{1+x} + \frac{Bx+C}{1+x^2}$   
**C.**  $\frac{A}{x+1} + \frac{C+Bx}{x^2-x+1}$                       D.  $\frac{A}{x+1} + \frac{Bx+C}{x^2+x+1}$
6. What is the value of  $S_{19}$  if terms of A.P are  $2 + \frac{7}{2} + 5 + \frac{13}{2} \dots \dots$  19th  
A.  $\frac{129}{2}$                       B.  $\frac{529}{2}$                       C.  $\frac{829}{2}$                       **D.**  $\frac{589}{2}$
7. What is the value of n, if  ${}^nC_8 = {}^nC_{12}$ ?  
A.  $8$                       B.  $12$                       C.  $4$                       **D.**  $20$
8. What is the term independent of a in the expansion of  $(\frac{a}{2} - \frac{2}{a})^6$  ?  
A.  $\frac{15}{4}$                       **B.**  $-20$                       C.  $\frac{-15}{4}$                       D.  $20$
9. What is the Arc length of an arc subtends an angle  $60^\circ 20'$  with radius  $18mm$ ?  
A.  $20.6$                       **B.**  $20.5$                       C.  $25.5$                       D.  $26.5$
10. What is the value of  $\sin 9\theta$  ?  
A.  $4\cos^3\theta - 3\cos^3\theta$                       B.  $3\cos^3 3\theta - 4\cos 3\theta$   
**C.**  $3\sin 3\theta - 4\sin^3 3\theta$                       D.  $4\sin 3\theta - 3\sin^3\theta$

11. What is the value of  $\cos\left(\frac{3\pi}{2} + \theta\right)$  ?  
 A.  $\cos\theta$       **B.**  $\sin\theta$       C.  $-\sin\theta$       D.  $-\cos\theta$
12. In a triangle if  $a=17$ ,  $b=10$ ,  $c=21$ , then what is the value of R?  
**A.**  $\frac{85}{8}$       B.  $\frac{83}{8}$       C.  $\frac{81}{8}$       D.  $\frac{87}{8}$
13. What is the value of  $\frac{\pi}{2} - \sin^{-1} x$  ?  
 A.  $\sin^{-1} x$       B.  $-\sin^{-1} x$       **C.**  $\cos^{-1} x$       D.  $-\cos^{-1} x$
14. What is the representation of conjunction of two statements  $p$  &  $q$  ?  
**A.**  $p \wedge q$       B.  $p \vee q$       C.  $p \rightarrow q$       D.  $p \leftrightarrow q$
15. If a sequence has condition  $a_n - a_{n-1} = n + 1$ ,  $a_4 = 14$  then  $a_5$  has value:  
 A. 16      **B.** 20      C. 26      D. 24
16.  $\frac{\sqrt{(S-b)(S-c)}}{\sqrt{S(S-a)}} = ?$   
 A.  $\sin \frac{\alpha}{2}$       B.  $\tan \frac{\beta}{2}$       C.  $\tan \frac{\gamma}{2}$       **D.**  $\tan \frac{\alpha}{2}$
17. What is the range of  $\cot^{-1}(x)$  ?  
 A.  $-1 < x < 1$       B.  $0 \leq x \leq \pi$       **C.**  $0 < x < \pi$       D.  $-\frac{\pi}{2} < x < \frac{\pi}{2}$
18. What is the multiplicative inverse of  $1 - 2i$  ?  
 A.  $\frac{1-2i}{4}$       **B.**  $\frac{1+2i}{5}$       C.  $\frac{1+2i}{\sqrt{5}}$       D.  $\frac{1-2i}{\sqrt{5}}$
19. The solution set of  $\cos x - \sin x = 0$  in  $[0, \pi]$  is:  
 A.  $\frac{5\pi}{4}$       B.  $\frac{\pi}{3}$       **C.**  $\frac{\pi}{4}$       D.  $\frac{5\pi}{3}$
20. What is the rank of  $\begin{bmatrix} 1 & 2 & 5 \\ 0 & 0 & 0 \\ 3 & 2 & 0 \end{bmatrix}$  ?  
 A. 3      B. 2      C. 1      **D.** 0