

## Practice Sample Test for Advanced Mathematics.

	A	B	C	D		A	B	C	D		A	B	C	D
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

**Rough Work**

1.  $x^2 - x - 6 = 0$ ,  $x$  has 2 values. What is one of them?  
a. 0                      b. 2                      c. 3                      d. 4
2.  $x + 2y = 6$                       What are  $x$  and  $y$ ?  
 $x + y = 5$   
a.  $x = 2, y = 3$                       b.  $x = 3, y = 2$   
c.  $x = 4, y = 1$                       d.  $x = 5, y = 0$
3.  $5x - 1 = 3x + 3$                       What is  $x$  ?  
a. 2                      b. 3                      c. 4                      d. 5
4.  $4x - 4 = 4$ .                      What is  $x$  ?  
a. 2                      b. 3                      c. 4                      d. 5
5.  $(\frac{1}{3})^3 = ?$   
a.  $\frac{3}{1}$                       b.  $\frac{1}{3}$                       c.  $\frac{1}{9}$                       d.  $\frac{1}{27}$
6.  $2[3 + 3(x + 3)] = 12$                       What is  $x$  ?  
a. -2                      b. -1                      c. 1                      d. 2
7.  $x^2 + 9x + 20 = 0$                        $x$  has 2 values. What is one of them?  
a. -5                      b. 2                      c. 4                      d. 5



14. Which of the alternatives below is another way of writing  $z^{16} - d^{16}$

a.  $(z^4 - d^4)^2$

b.  $z^4 - 2z^4d^4 + d^4$

c.  $(z^8 + d^8)(z^8 - d^8)$

d.  $(z^8 - d^8)$

15.  $4x^2 + 2xy + 3y^2 - x^2 - y^2 + xy =$

Which of the below alternatives represent the above?

a.  $4x^2 + 8xy + y^2$

b.  $3x^2 + 3xy + 2y^2$

c.  $11xy$

d.  $(x + 3y)(x - 4y)$

16.  $(a + b)(2a - 3b) = ?$

a.  $3a - 2b$

b.  $2a^2 - 3b^2$

c.  $2a^2 + 5ab + 3b^2$

d.  $2a^2 - ab - 3b^2$

17.  $x = \frac{1}{\sqrt{ab}}$  What is "a" equal to?

a.  $\frac{1}{bx^2}$

b.  $\frac{1}{xb^2}$

c.  $\frac{\sqrt{x}}{b}$

d.  $\sqrt{\frac{1}{xb}}$

18.  $G^2 = S^2 + 2TW$  What is "T" when  
 $G = 11$   
 $S = 6$   
 $W = 85$

a. 270

b. 170

c. 0.5

d. 0.25

19.  $a = \frac{b}{c^2}$  What does "c" equal?

a.  $\sqrt{\frac{a}{b}}$

b.  $\sqrt{\frac{b}{a}}$

c.  $ab$

d.  $\frac{a}{b}$

20. What is "S" when  $t = 3$

$$S = \frac{tu^2}{2k}$$

$$u = 100$$

$$k = 25$$

- a. 50                      b. 300                      c. 600                      d. 6000

21. What is the volume of a cone with a radius of 4 and a height of 6?

(Take  $\pi$  as equal to  $\frac{22}{7}$ )

- a. 75                      b. 101                      c. 151                      d. 201

22. What is the total surface area of a sphere with diameter = 8

(Take  $\pi$  as equal to  $\frac{22}{7}$ )

- a. 25                      b. 67                      c. 101                      d. 201

23. If  $\triangle xyz$  is a right angled triangle with  $xy$  as the hypotenuse, the cosine of angle  $y =$

- a.  $\frac{xz}{xy}$                       b.  $\frac{yz}{xy}$                       c.  $\frac{xy}{yz}$                       d.  $\frac{xz}{yz}$

24. What is the area of the curved surface of an open ended cylinder with a radius of  $2\frac{1}{2}$  and a height of 4?

(Take  $\pi$  as equal to  $\frac{22}{7}$ )

- a. 18                      b. 27                      c. 63                      d. 72

25. If  $\triangle xyz$  is a right angled triangle with  $xy$  as the hypotenuse; with  $xz = 9$  and  $zy = 11$ , the length of  $xy$  is:

- a.  $\sqrt{19}$                       b. 19                      c.  $\sqrt{202}$                       d. 202