

#### **MATHS**

#### **BOOKS - SURA MATHS (TAMIL ENGLISH)**

#### **CREATIVE QUESTION SET**

#### **Multiple Choice Question**

**1.** If 
$$n(A \times B) = 20$$
 and  $n(A) = 5$  then  $n(B) =$ 



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**2.** A relation which contains no element is called a \_\_\_.



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- **3.** If  $f(x) = 2x x^2$  then find the value of f(1)=\_\_\_.
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- **4.** If f(x) = 2x + 1 and  $g(x) = x^2 2$  then find gof\_\_\_\_.
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- **5.** Let  $A=\{0,1\}$  and  $B=\{0,1\}$  then A imes B=
  - Watch Video Solution

- **6.** If n(A) = p and n(B) = q then  $n(A \times B)$ \_\_\_\_.
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7. A curve drawn in a graph represents a function, if every line intersects the curve in at most one point. Watch Video Solution

**8.** If a function  $f \colon A \to B$  is both one-one and onto then f is called a\_\_\_.

 $X = \{1, 2, 3, 4\}$  and  $Y = \{2, 4, 6, 8, 10\}$  and  $R = \{(1, 2), (2, 4), (3, 6), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4), (4, 4$ 

Let



9.

. Find the range =\_\_\_.



**10.** The difference between relation and function is \_\_\_\_.

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**11.** The HCF of numbers of the form  $2^m$  and  $3^n$  is \_\_\_\_.



**12.** If G.P if  $t_1=\frac{1}{5}$  and  $t_2=\frac{1}{25}$  then the common ratio is \_\_\_.



**13.** If first term=a, common ratio=r then find the value of  $t_{27}=\_\_$ 



**14.**  $1 + 2 + 3 + \ldots + 55 =$ \_\_\_\_.



**15.** Find the next term of the sequence  $\frac{1}{2}$ ,  $\frac{1}{6}$ ,  $\frac{1}{10}$ ,  $\frac{1}{14}$ , \_\_\_\_\_.



**16.** Sum of n-terms of a G.P. is \_\_\_.



**17.**  $1^2 + 2^2 + 3^2 + \dots + 19^2 =_{-}$ .



**18.** The average of first 100 natural number is \_\_\_.



**19.** The numbers of the form a, a+d, a+2d, a+3d\_\_\_\_\_ is said to form\_\_\_.



# **21.** If a and b are any two integers then there exists unique integers q and r such that \_\_\_\_ where $o \leq r \leq |b|$ .



**22.** A linear equation in three variables of the form 
$$ax+by+cz+d=0$$
 represents a \_\_\_\_.



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**24.** A square matrix, all of whose elements except those in the leading diagonal are zero is called a \_\_\_ matrix.

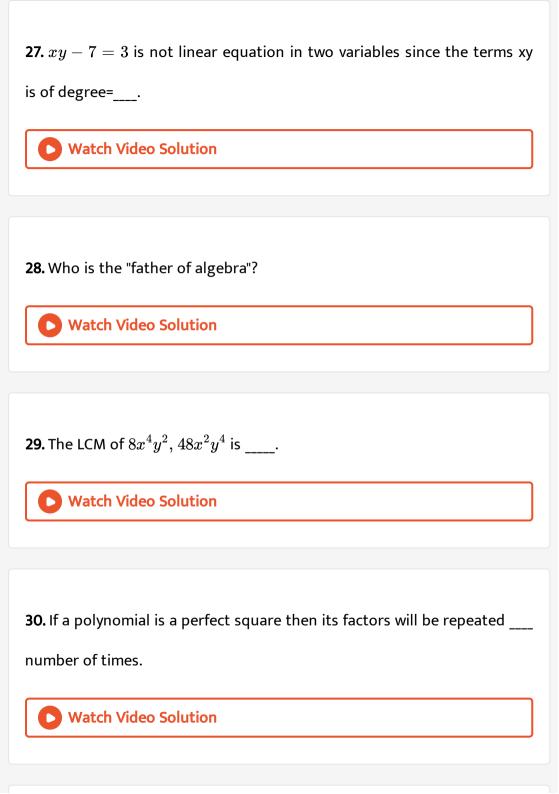


**25.** If the graph of the given equation does not intersect the x-axis at any point then the given equation has \_\_\_\_.



**26.** What is the value of x in  $3\sqrt{x} = 9$ ?







**32.** If 
$$A=\left[(1,3),\left(\sqrt{2}\right),5\right),\left(rac{1}{2},4
ight)
ight]$$
 then find  $a_{32}.$ 



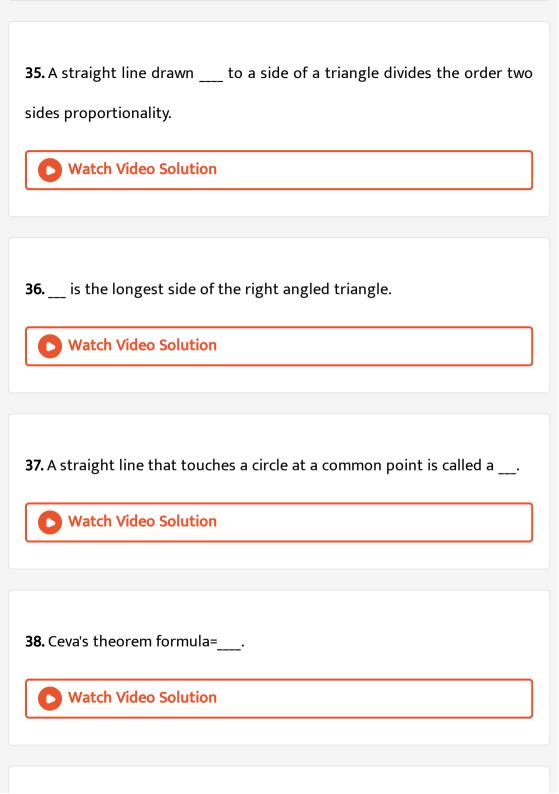
**33.** If 
$$A = \begin{bmatrix} 1 & -1 \\ -1 & 1 \end{bmatrix}$$
 and  $B = \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$  then  $AB = \underline{\hspace{1cm}}$ .



**34.** For the given matrix  $A=\begin{bmatrix}1&3&5&7\\2&4&6&8\\9&11&13&15\end{bmatrix}$  the order of the matrix

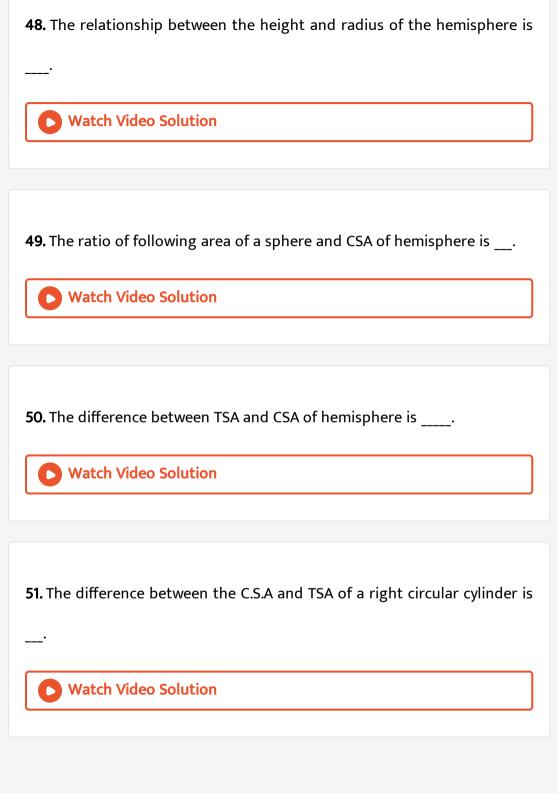
 $A^T$  is

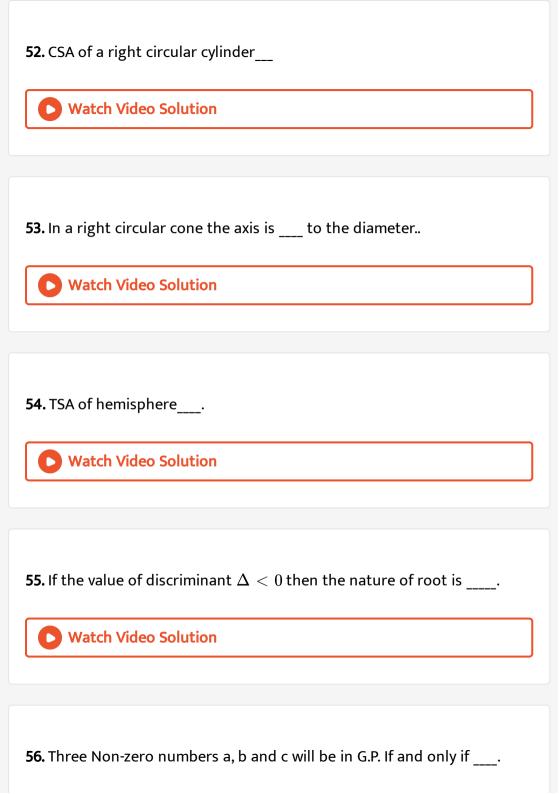




<b>39.</b> If a line touches the given circle at only one point then its called
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<b>40.</b> In a right triangle the sum of the other two angles is
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<b>41.</b> Thales theorem formula=
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<b>42.</b> ABT theorem formula=
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<b>43.</b> Pythagoras theorem formula=

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<b>44.</b> CSA of a hollow cylinder=
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<b>45.</b> CSA of a frustum=
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<b>46.</b> Volume of cone=
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<b>47.</b> Volume of frustum=
Watch Video Solution





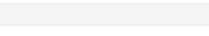
**57.** Three numbers a, b and c will be in A.P. if and only if \_\_\_\_.

**58.** The next term of the sequences  $\frac{3}{16}, \frac{1}{8}, \frac{1}{12}, \frac{1}{18}, \dots$ 

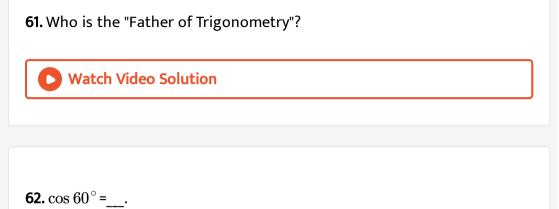
60. Find the element in second row and third column of the matrix

**59.** 
$$\frac{x^3}{9y^2} \times \frac{27y}{x^5} =$$
\_\_\_\_.





 $\begin{bmatrix} 1 & -2 & 3 \\ 2 & 1 & 5 \end{bmatrix}$  is \_\_\_\_.





**63.**  $\tan 45^{\circ} =$ \_\_\_.



**64.** 
$$1 + \cot^2 \theta =$$
\_\_\_\_.



**65.**  $\sin^2 A + \cos^2 A =$ \_\_\_.



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**66.** The number of trigonometry ratio is .



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**67.** In  $\tan \theta = \cot \theta$  then the value of  $\theta$  is .

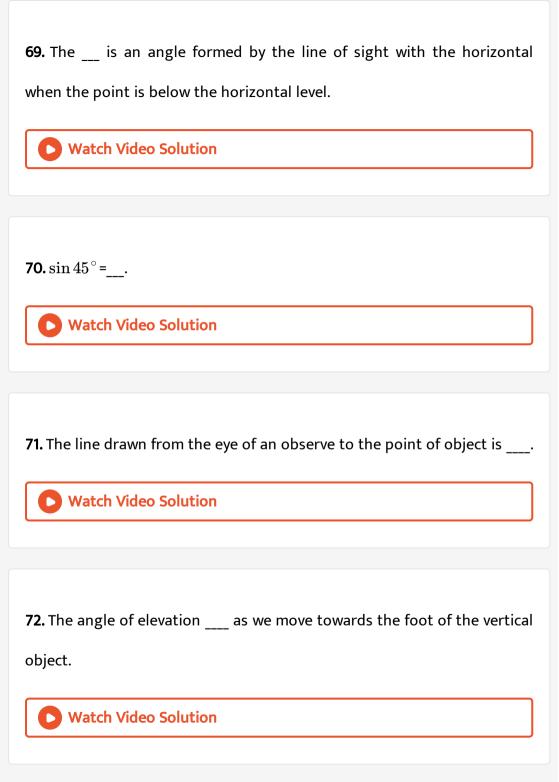


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**68.**  $co60^{\circ} \sin 30^{\circ} + \cos 30^{\circ} \sin 60^{\circ}$  = .



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**73.**  $(1 + \cos A \sin A) - (1 - \cos A \sin A) =$ \_\_\_.



**74.** What is the value of  $\sqrt{3}$ \_\_.



**75.** When the line of sight is above the horizontal level the angle formed is \_\_\_\_.



**76.**  $\cot 60^{\circ}$  = \_\_\_\_.



<b>77.</b> $(\sec \theta + \tan \theta)(\sec \theta - \tan \theta)$ =
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<b>78.</b> $\cos 30^{\circ}$ =
Watch Video Solution
<b>79.</b> If the sm of 10 data values is 265 then their mean is  Watch Video Solution
Watch video Solution
<b>80.</b> If the variance is 0.49 then the standard deviation is
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<b>81.</b> When the standard deviation is divided by the mean we get





## **83.** If A and B are mutually exclusive events then $P(A \cap B) =$ \_\_\_.



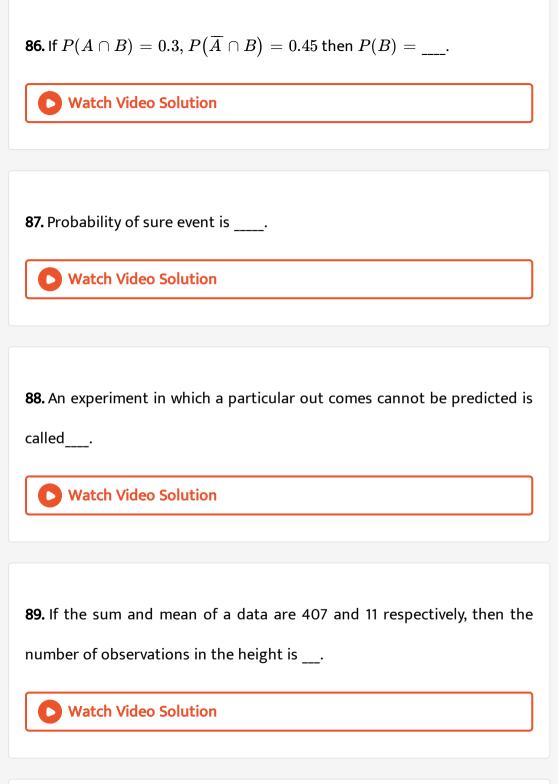
### **84.** $P(A \cup B) + P(A \cap B) =$ .

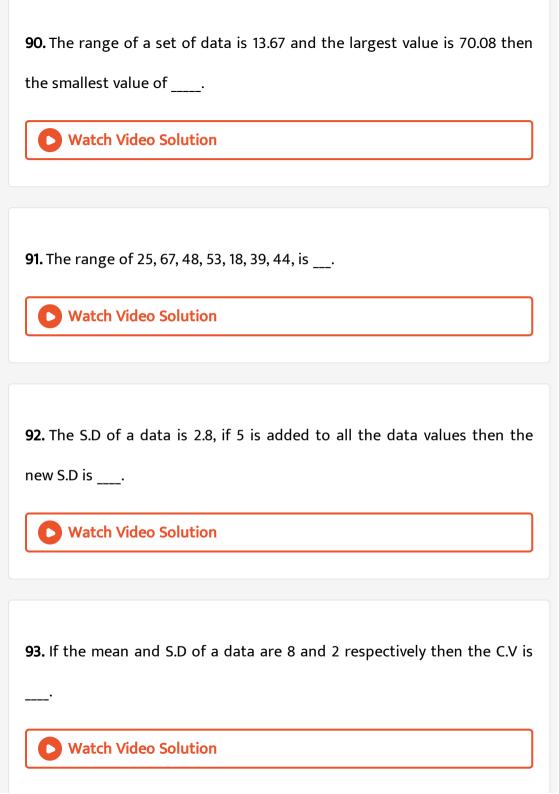


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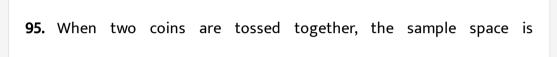


**85.** The set of all possible outcomes is called \_\_\_\_.





**94.** The probability of an impossible event is \_\_\_\_.





 $S = \{HH, HT, TH, \top \}$  then n(S)= .

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**96.** The inclination of x-axis and everyline parallel to X-axis is \_\_\_.



**97.** A(0,4), B(5,0) and C(-4,-7) are vertices of a triangle then its centroid will be at\_\_\_.



**98.** Two non-vertical line with slopes  $m_1$  and  $m_2$  are perpendicular if and only if  $m_1 imes m_2$ =\_\_\_.



**99.** A line with slope (m) and y-intercept (c) can be expressed through the equation =\_\_\_\_.



**100.** Slope of the straight line is \_\_\_\_.



**101.** If  $heta=180^\circ$  then the slop of the line parallel to the negative direction of \_\_\_\_.



102. The equation of y-axis is \_\_\_.

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103. Find the equation of a line passing through the point(3, -4) and slope

1	<b>03.</b> Fin	d the e	quation	of a line	passing	through	the poi	int(3, -4)	) and slo	ope
(	$\left(\frac{-5}{7}\right)$	is								



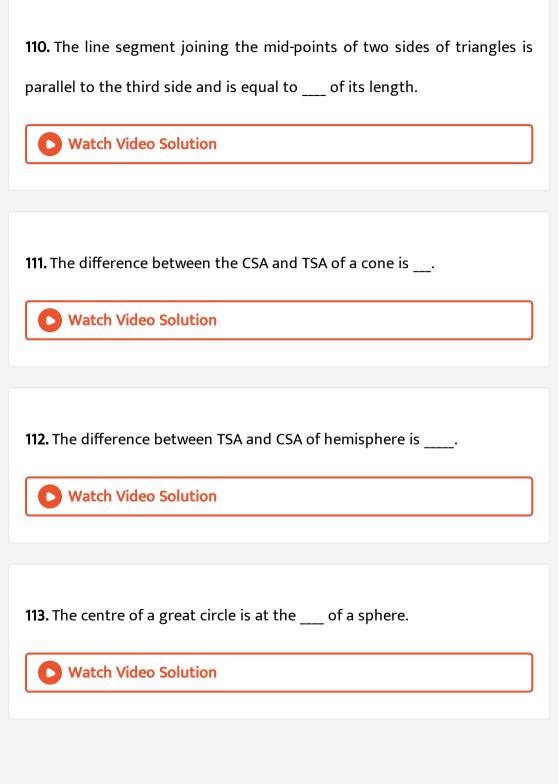
**104.** Two straight line are parallels if and only if their slopes are \_\_\_\_.

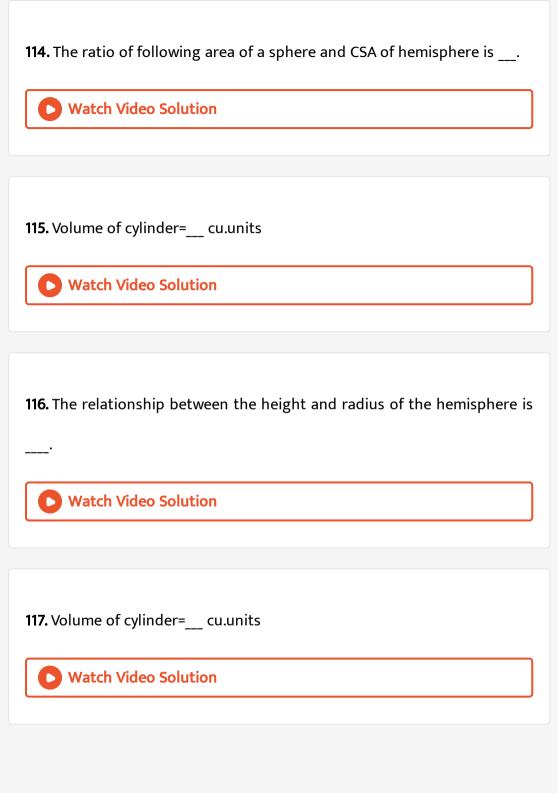


**105.** What is the slope of the line whose inclination is  $30^{\circ}$ ?



<b>106.</b> What is the slope of line whose inclination $60^{\circ}$ is
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<b>107.</b> Heron's formula=
• Watch of Languistics
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<b>108.</b> If three point $A(x_1,y_1)$ , $B(x_2,y_2)$ and $C(x_3,y_3)$ will be collinear
then the area of $\ \triangle \ ABC =$
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<b>109.</b> The inclination of y-axis and everyline parallel to y-axis is
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118. A section of the sphere by a plane through any of its great circle is
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119 is a solid generated by the revolution of a semicircle about its
diameter as axis.
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<b>120.</b> Volume of frustum=
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