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## MATHS

## BOOKS - UNIQUE MATHS (HINGLISH)

## COVERAGE STANDARD QUESTION

1 Mark Questions

1. Write the properties of congruent segments.

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2. Co-ordinate of $A$ is at 5 unit and if co-ordinate of $B$ is -6 unit then find distance between AB.
3. Write the following statement 'If-then' form The diagonals of rectangle are congruent.

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4. Point $M$ is midpoint of seg $A B$. If $A B=9 \mathrm{~cm}$ then find the length of $A M$.

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5. How many circles can be drawn through " two points "?

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6. Point D is midpoint of seg VJ . If VJ is 8.2 cm , find DV .

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7. There are 3 segments. seg $A B$, seg $C D$, seg $E F$. All 3 segments obey transitivity property. If $A B=5 \mathrm{~cm}$, then find value of $C D$ and $E F$.

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8. If $S-B-H a n d ~ d(S, B)=5 \mathrm{~cm}, d(B, H) 8 \mathrm{~cm}$. Then find $d(S, H)=$ ?

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9. Which figure is formed by three non-collinear points ?

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10. If $\mathrm{SP}=6 \mathrm{~cm}, \mathrm{SJ}=3 \mathrm{~cm}$ and $\mathrm{RV}=4.4 \mathrm{~cm}$. Compare the segments.

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11. Write the converse of, "the alternate angles formed by two parallel lines and their transversal are congruent."

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12. Write the converse of, "if the corresponding angles formed by a transversal of two lines are congruent, then two lines are parallel."

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13. Coordinate of point P on a number line is 5 . What are the co-ordinates of points on the number line which are a distance of 8 units from $P$ ?

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14. Write the following statements in conditional form, "every rectangle is a parallelogram.
15. Write the following statements in conditional form, "chords, which are equidistant from the centers of congruent circles, are congruent."

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16. $d(A, B)=5 \mathrm{~cm}, d(B, C)=11 \mathrm{~cm}, d(A, C)=6 \mathrm{~cm}$ which of the points is between the other two?

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17. How many mid points does the segment have?

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18. Write converse of the following statement: If a pair of the interior angles made by a transversal of two lines are supplementary then the lines are parallel.

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19. Write in conditional form:
(i) Every rhombus is a square.
(ii) Interior angles are supplementary to each other.

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20. On the number line, points $A, B, C$ are such that $d(A, C)=10, d(C, B)=8$, find the $\mathrm{d}(\mathrm{A}, \mathrm{B})$ considering all possibilities.

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21. If $A-B-C$ and $I(A C)=11, I(B C)=6.5$ then find $I(A B)$.

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22. Draw a number line and denote the following points on number line $-3,5,7,-6$

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23. From the information given below find which of the point is between the other two. If the points are not colinear, state so,
$\mathrm{d}(\mathrm{DE})=5, \mathrm{~d}(\mathrm{EF})=8, \mathrm{~d}(\mathrm{DF})=6$
$d(P R)=7, d(P Q)=10, d(Q R)=3$

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24. Point $M, N, O$ are co-linear such that $d(M, N)=10, d(N, O)=18$. Find $d(M$, O) $=$ ?

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25. When given two lines are parallel. If one angle of two interior angle is
$70^{\circ}$ then find the measure of second interior angle.

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26. In $\triangle A B C, \angle A=76^{\circ}, \angle B=48^{\circ}$, then find $\angle C=$ ?

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27. If two lines are not intersect each other then the lines are.

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28. The sum of the two angles of the triangle is $90^{\circ}$ then find the third angle?

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29. Two parallel lines are intersected by an transverse. If measure of one of the alternate angle is $85^{\circ}$. Find measure of other angle.

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30. In $\triangle P Q R, \angle P=76^{\circ}, \angle Q=48^{\circ}, \angle R=$ ?

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31. $\angle X Y Z$ and $\angle P Q R$ are a complementary of each other then find $\angle X Y Z+\angle P Q R=?$
32. In $\triangle P Q R, P Q=10 \mathrm{~cm}, P R=5 \mathrm{~cm}, Q R=12 \mathrm{~cm}$. Find out the greatest and the smallest angle of triangle.

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33. The perimeter of two similar triangles are 24 cm and 16 cm , respectively. If one side of the first triangle is 10 cm , then the corresponding side of the second triangle is

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34. $\triangle P Q R, P Q=12 \mathrm{~cm}, Q R=14 \mathrm{~cm}, P R=8 \mathrm{~cm}$. Find out the greatest and the smallest angle of the triangle.

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35. $\triangle S U N, \angle S=85^{\circ}, \angle U=45^{\circ}$ greatest and the smallest side of the triangle.

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36. Which of the following is not the test of congruence of two triangles ?

ASA test ,AAS test, SSA test , SAS test.

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37. $\triangle X Y Z \sim \triangle L M N$. Write the corresponding angles of the triangles and also write the ratio of the corresponding sides.

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38. $\triangle A B C \sim \triangle P Q R$, if $\mathrm{AB}=4 \mathrm{~cm}, \mathrm{BC}=6 \mathrm{~cm}, \mathrm{AC}=5 \mathrm{~cm}$, and $\mathrm{PQ}=8 \mathrm{~cm}$, then find the length of remaining side.
39. Draw perpendicular bisector to line segment AB if $l(A B)=7 \mathrm{~cm}$.

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40. Draw line segment PQ with the length 9 cm .

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41. Draw seg 8.7 cm and bisect it.

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42. $\square A B C D$ is a rectangle . If $\mathrm{AC}=6 \mathrm{~cm}$, then find BD .
43. State the type of quadrilaterals. Name them.

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44. Write the any two properties of square.

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45. Draw a trapezium and state the pair of parallel side

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46. $P Q R S$ is parallelogram. $\angle Q$ is $70^{\circ}$, then find $\angle S$.

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47. If one side of rhombus is 8.5 cm . Find perimeter of rhombus.
48. In $\square I J K L$, side II\| side $K L, \angle I=108^{\circ}, \angle K=53^{\circ}$. Find measure of $\angle J, \angle L$

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49. The adjacent sides of a rectangle are 7 cm and 24 cm . Find the length of its diagonal.

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50. The diagonals are perendicular to each other. ' In which of the following quadrilaterals is the following property observed ?

Rectangels, Rhombus , Kite, Isosceles tranpezium .

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51. Perimeter of a square is 64 cm . Find the measure of its side.

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52. If the length of the diagonal of a square is $12 \sqrt{2} \mathrm{~cm}$, then its perimeter is

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53. If the diagonal of a square is 13 cm ,then find the length of its side .

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54. The adjacent sides of a rectangle are 7 cm and 24 cm . Find the length of its diagonal.
55. State the type of circle which touches all the sides of a triangle and the circle passing through all the vertices of a triangle.

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56. The circle having the same center but with different radii is known as.

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57. If radius of a circle is 7 cm . Then find the diameter of a circle.

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58. Draw three concentric circles with different radii.

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59. How many chords we can draw a circle?

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60. If radius of circle is 4.8 cm . Find length of biggest chord.

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61. Two circles are intersect externally if radius of one circle is 3.5 cm and other is 6.5 cm find the distance between their centres.

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62. Radius of circle is 10 cm . There are two chords of length 16 cm each.

What will be the distance of there chords from the center of circle.

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63. Draw the tangent, if two circle intersecting in two points.

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64. Radius of a circle with centre $O$ is 4 cm . if /(OP) $=4.2 \mathrm{~cm}$ then state where point P will lie with respect to the circle.

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65. Radius of a circle with centre $O$ is 4 cm . if $/(O P)=4.2 \mathrm{~cm}$ then state where point $P$ will lie with respect to the circle.

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66. If the radius of the circumcircle of an equilateral triangle is 5 cm then find the radius of its in circle.
67. If the length of the longest chord of a circle is 22 cm . Find the radius of a circle.

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68. The radius of the circle with the centre O is 2.3 cm and if the $\mathrm{OQ}=3.2$ cm then where is the point Q lies?

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69. The length of a chord of a circle is 16 cm and distance of chord is 15 cm from the center of the circle then find the radius of the circle.

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71. If $\tan \theta=1$ then $\tan (90-\theta)=$ ?

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72. $\frac{\cos 28^{\circ}}{\sin 62^{\circ}}=$ ?

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73. If $\sin 40^{\circ}=\cos A$ then find A .

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74. If $\theta=30^{\circ}$, then $\sin ^{2} \theta=$ ?

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75. $\cos 45^{\circ}-\sin 45^{\circ}=$ ?

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76. Write the value of $\sin 30=\square, \cos 60 \square$

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77. If $\sin \theta=\frac{4}{5}, \cos e c \theta=$ ?

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78. $\sin \theta=\cos \square$

## - Watch Video Solution

79. Fill the box $\tan \theta \times \tan (90-\theta)=\square$
80. Find $5 \sin 30^{\circ}+3 \tan 45^{\circ}$

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81. Show that $\tan \theta \times \tan (90-\theta)=1$

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82. 

$\triangle P Q R, m \angle P=60^{\circ}, m \angle R=30^{\circ}, P R=2 a, P Q=a Q R=?$

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83. Which of the following statement is true?
(A) $\sin \theta=\cos (90-\theta)$
(B) $\cos \theta=\tan (90-\theta)$
(C) $\sin \theta=\tan (90-\theta)$
(D) $\tan \theta=\tan (90-\theta)$

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84. $\cos 45^{\circ}=\frac{1}{\sqrt{2}}$ and $\sin 30^{\circ}=\frac{1}{2}$. Find the value of $\cos ^{2} 45^{\circ}+\sin ^{2} 30^{\circ}$.

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85. If $x$-co-ordinate of point $A$ is negative and $y$-co-ordinate is positive.

Then which quadrant point A lie?

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86. If the point is on $x$-axis then what is its $y$-co-ordinate.
87. If line line 'l' is parallel to $y$-axis then what is the equation of line ' I '.

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88. State which quadrant or on which axis do the point lie. $A(-3,2) P(0,2)$

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89. In which quadrant are the following points. Whose $x$-co-ordinate is positive and y co- ordinate is negative. Both co-ordinates are negative.

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90. Write equation of line parallel to $y$-axis and at a distance 7 units from it to its left.

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91. What is the co-ordinate of origin?

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92. Write down the equation of a line parallel to $y$-axis passing through co-ordinate 3.

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93. Write down the equation of line passing through origin.

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94. If the equation of line is $x=-5$ then that line parallel to which axis?
95. In which quadrant does the point $(-4,-3)$ lies.

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96. The equation of the $x$-axis is

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97. Find the surface area of sphere if radius is 9 cm ?

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98. $\{i\}$ Find the curved surface area of cone if its base radius is 12 cm and slant height $=7 \mathrm{~cm}$.
\{ii\} Find the surface area of the sphere if radius is 14 cm .
99. If $l \times b \times h=20 \times 12 \times 10$, then find the volume of cuboid.

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100. If the length of the cube is 6 cm . Then find the total surface area of a cube.

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101. The length , breadth and height of a cuboidal shaped box of medicine is $20 \mathrm{~cm}, 12 \mathrm{~cm}$ and 10 cm respectively. Find the total surface area of the box.

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102. Write the formula to find out the surface area of a solid hemisphere.
103. What is volume of sphere whose radius is $4 \mathrm{~cm} .(\pi=3.14)$

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104. Write the formula to find volume of cuboid.

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105. Side of the cube is 4 cm . Find the surface area of all vertical faces and total surface area of the cube. Volume of cube is $1000 \mathrm{~cm}^{3}$. Find its side.

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106. If radius of cone is 7 cm . Find area of base of cone.

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107. In cone $\mathrm{h}=12 \mathrm{~cm}, \mathrm{l}=13 \mathrm{~cm}, \mathrm{r}=$ ?

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108. If curved surface area of a cone $18753.6 \mathrm{~cm}^{3}$ and slant height 20 cm the find radius of base?

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109. If radius is $r$ and height is $h$, then find curved surface area of cylinder.

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110. What is the total surface area of hemisphere if the radius of hemisphere is $r$.
111. What will be the volume of a cube having length of the edge 7.5 cm ?

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112. The total surface area of a cube is $864 \mathrm{~cm}^{2}$. Find the volume?

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## 2 Mark Questions

1. The sum of measure of all angle of a triangle is $180^{\circ}$. Draw the labelled figure of this theorem and also write given and to prove.

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2. 

$\triangle L M N, \angle L=30^{\circ}, \angle M=90^{\circ}, \angle N=60^{\circ}$ and $L N=18$, then find
3. Angles of triangle are in the ratio of $2: 3: 4$ then find the measure of all angles.

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4. $\triangle X Y Z \sim \triangle L M N$. Write the corresponding angles of the triangles and also write the ratio of the corresponding sides.

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5. In $\triangle P Q R, \angle Q=90^{\circ}, \mathrm{PQ}=12 \mathrm{~cm}, \mathrm{QR}=5 \mathrm{~cm}$ and QS is a median, find I(QS).

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6. The measure of triangle are $x^{\circ},(x+10)^{\circ},(2 x+10)^{\circ}$. Find the measure of each angle.

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7. Prove that an equilateral triangle is equiangular.

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8. Show that in a right angled triangle, the hypotenuse is the longest side.

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9. $\triangle P Q R, \angle Q=90^{\circ}, P Q=12, Q R=5, Q S$ is a medium find $\mathrm{I}(\mathrm{QS})$.

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10.

In the figure , $\angle A C D$ is an exterior angle of $\triangle A B C$, $\angle A=70^{\circ}, \angle B=40^{\circ}$. Find measure of $\angle \mathrm{ACD}$.

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11. Construct triangle $A B C$ with sides $A B=5 \mathrm{~cm}, B C=9 \mathrm{~cm}$, and $A C=6 \mathrm{~cm}$.

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12. Construct an equilateral triangle, if one side is 10 cm .
13. If opposite angles of a rhombus are $3 x^{\circ}$ and $(4 x-20)^{\circ}$ then find the value of $x$.

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14. ABCD is parallelogram if $\angle A=(4 x+13)^{\circ}, \angle D=(5 x-22)^{\circ}$, then find $\angle B, \angle C$.

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15. Two adjacent sides of a parallelogram is 150 cm . One of its sides is greater than the other by 25 cm . Find the length of the sides of the parallelogram.

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16. Diagonal of rhombus are 6 cm and 8 cm respectively, then find sides of rhombus.
17. The angles of quadrilateral are in the ratio 3:5:9:13. Find the measure of all angles of quadrilateral.

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18. If the diagonals of a parallelogram are equal, then show that it is a rectangle

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19. Diagonal $A C$ of a parallelogram $A B C D$ bisects $A$. Show that it bisects C also


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20. Diagonals of a parallelogram intersect each other at point $Q$. If $A Q=5$, $B Q=12$ and $A B=13$, then show that $A B C D$ is a rhombus.

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21. The ratio of measure of two adjacent angle of parallelogram is 1:2.

Find the measure of all angles of the parallelogram.

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22. The ratio of two adjacent side of parallelogram is $3: 4$ and its perimeter is 112 cm find the length of its each side.

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23. The diagonals of rhombus are 20 and 48 cm . Find the length of side.

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24. Find area of circle whose diameter is 14 cm .

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25. Radius of circle is 34 cm . And distance of chord from centre is 24 cm .

Find length of the chord?

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26. Recall that two circles are congruent if they have the same radii. Prove that equal chords of congruent circles subtend equal angles at their centres.

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27. Prove that if chords of congruent circles subtend equal angles at their centres, then the chords are equal.

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28. $\frac{\cot 60^{\circ}}{\sin 60^{\circ}+\cos 60^{\circ}}$ find the value

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29. $\cos \theta=\frac{8}{10}$, then find $\sin \theta$.
30. Find the value of, $2 \tan 45^{\circ}+\cos 30^{\circ}-\sin 60^{\circ}$.

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31. $\frac{\tan 60^{\circ}}{\sin 60^{\circ}+\cos 60^{\circ}}=$ ? find the value .

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32. If $\sin \theta=\frac{15}{17}, \cos \theta=$ ?

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33. $\frac{\cos 28^{\circ}}{\sin 62^{\circ}}=$ ?
34. In right angled triangle XYZ if $\angle Z=\theta, \angle Y=90^{\circ}, \cos \theta=\frac{24}{25}$, Find $\sin \theta$ and $\tan \theta$

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35. If $\tan \theta=\frac{1}{2 \sqrt{2}}$ then find $\sin \theta$ and $\cos \theta$.

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36. $\frac{\cos 60^{\circ} \times \cos 30^{\circ}+\sin 60^{\circ} \times \sin 30^{\circ}}{2 \sin 30^{\circ} \times \cos 0^{\circ}+\sin 90^{\circ}}=$ ?

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37. Find the value of, $5 \sin 30^{\circ}+3 \tan 45^{\circ}$,

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38. Find the value of $\frac{\cos 56^{\circ}}{\sin 34^{\circ}}$.

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39. If $\tan \theta=\frac{12}{5}$, then $5 \sin \theta-12 \cos \theta=$ ?

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40. Draw the co-ordinate system on a plane and plot the following points? $\mathrm{L}(-2,4), \mathrm{Q}(6,-5)$

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41. In which quadrant are the following points. $A(3,5), B(-2,-7)$

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42. Write the equation of the line paraller to the $y$-axis at a distance of 7 units from it to its left.

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43. The point $Q(3,-2)$, lie on a line parallel to the $y$-axis, Write the equation of the line and draw its graph.

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44. How many lines are there which are paraller to the $x$-axis and having a distance 5 units ? Write their equatons.

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45. Draw the co-ordinate system on a plane and plot the following points.
(i) $A(-2,4)$ (ii) $B(6,-5)$
(iii) $C(0,-2)$ (iv) $D(-3,-4)$

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46. Complete the table for drawing the graph. $2 x-y=1$

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47. Which of equation given below has graph parallel to $x$-axis and which one have graph parallel to y -axis.
(i) $x=3$, (ii) $y-2=0$
(iii) $x+6=0$ (iv) $y=-5$

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48. Draw the graph of equation, $x+y=0$
49. Without plotting points on graph state in which quadrant or on which axis do the following point lie, (0, -3), (4, -5), (5, 6), (-7,8)

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50. How many lines are there which are paraller to the $x$-axis and having a distance 5 units ? Write their equatons.

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51. Prepare a table to draw graph of given equation $2 x-y+1=0$

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52. What is the name of horizontal and the vertical lines draw to determine the position of any point in the cartesian plane.
53. On graph paper plot the point $A(3,0), B(3,3), C(0,3)$. Join $A, B$ and $C$ what is the figure formed?

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54. In which quadrant are the following
(i) Whose both co-ordinates are positive.
(ii) Whose both co-ordinates are negative.

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55. Which of the equation given below have graph parallel to the $x$-axis and which one have graphs parallel to the $y$-axis?
(i) $x=-6$, (ii) $y-4=0$, (iii) $y=6$

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56. Find the surface area of a sphere having radius ' 7 '. $\left(\pi=\frac{22}{7}\right)$

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57. If the radius of a solid hemisphere is 5 cm . Then find its curved surface area. $(\pi=3.14)$

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58. Find the volume of a sphere, if its surface area is $154.59 \mathrm{sq} . \mathrm{cm}$.

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59. If area of base of cone is $1386 \mathrm{sq} . \mathrm{cm}$. Find its radius.
60. Curved surface area of cylinder is $1980 \mathrm{~cm}^{2}$ and radius of its base is 15 cm . Find the height of the cylinder. $\left(\pi=\frac{22}{7}\right)$

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61. Find the volume of cone if its total surface area is $7128 \mathrm{sq} . \mathrm{cm}$ and radius of base is 28 cm .

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62. Total surface area of cube is 5400 sq . cm . Find surface area of all vertical faces of the cube.

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63. Volume of hemisphere is $18000 \pi \mathrm{~cm}^{3}$. Find its diameter.
64. Find the volume of a sphere whose surface area is $154 \mathrm{~cm}^{2}$

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65. Find the volume of a sphere if its surface area is $15459 \mathrm{~cm}^{2}$ ?.

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66. Find the volume of a cone if its total surface area is $7128 \mathrm{~cm}^{2}$ ? and radius of base is $28 \mathrm{~cm}\left(\pi=\frac{22}{7}\right)$

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67. What will be the volume of a cube having length of edge 7.5 cm ?

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68. Find the surface area of circular sphere having radius 7 cm .

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69. Find volume of a sphere whose surface area is $314.59 \mathrm{~cm}^{2} ?(\pi=3.14)$

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70. $\mathrm{I}=13 \mathrm{~cm}, \mathrm{~h}=12 \mathrm{~cm}$, find the radius of the cone?

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71. The volume of a cylinder is $200 \mathrm{~cm}^{3}$. Its height is 10 cm . Find the area of its base.

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72. Find the volume of hemisphere with diameter $6 \mathrm{~cm} .(\pi=3.14)$

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73. If $r=6, \mathrm{l}=8 \mathrm{~cm}$ then find the total surface area of the cone?
