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.

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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 AB. If AB =9 cm then find the length of AM.

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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 AB, seg CD, seg EF. All 3 segments obey transitivity property. If AB= 5 cm, then find value of CD and EF.

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8. If S-B-Hand d(S,B)=5 cm, d(B, H) 8cm. 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 SP = 6 cm, SJ = 3 cm and RV = 4.4 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.

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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) = 5cm, d(B, C) = 11 cm, d(A, C) = 6 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 d(A,B) considering all possibilities.

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21. If A -B-C and l (AC)=11,l(BC)=6.5 then find l(AB).

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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,

d(DE) =5, d(EF) =8, d(DF) =6

d(PR) =7, d(PQ) =10, d(QR) =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° then find the measure of second interior angle.

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26. In $\triangle ABC, \angle A = 76^\circ, \angle B = 48^\circ$, 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° 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°. Find measure of other angle.

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

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31. $\angle XYZ$ and $\angle PQR$ are a complementary of each other then find $\angle XYZ + \angle PQR = ?$

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32. In $\triangle PQR, PQ = 10cm, PR = 5cm, QR = 12cm.$ Find out the greatest and the smallest angle of triangle.

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

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34. $\triangle PQR, PQ = 12cm, QR = 14cm, PR = 8cm.$ Find out the greatest and the smallest angle of the triangle.

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35. $\triangle SUN, \angle S = 85^\circ, \angle U = 45^\circ$ 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. $\triangle XYZ \sim \triangle LMN$. Write the corresponding angles of the triangles and also write the ratio of the corresponding sides.

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38. $\triangle ABC \sim \triangle PQR$, if AB=4cm, BC=6cm, AC=5cm, and PQ=8cm, then find the length of remaining side.

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39. Draw perpendicular bisector to line segment AB if $l(AB) = 7cm$.

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

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41. Draw seg 8.7cm and bisect it.

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42. $\square ABCD$ is a rectangle . If AC = 6 cm, then find BD.

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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. $PQRS$ is parallelogram. $\angle Q \text{ is } 70^\circ$, then find $\angle S$.

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47. If one side of rhombus is 8.5 cm. Find perimeter of rhombus.

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48. In $\square IJKL$, side IJ|| side KL, $\angle I = 108^\circ$, $\angle K = 53^\circ$. 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 $12\sqrt{2}cm$, 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.

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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 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 /(OP) = 4.2 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.

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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 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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70. Fill in the blanks : $\tan 30^\circ \times \tan\_\_\_\_\_ = 1$

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

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

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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 $\sin\theta = \frac{4}{5}$, $\cos ec\theta = ?$

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

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79. Fill the box $\tan\theta \times \tan(90 - \theta) = \square$

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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. In

$\triangle PQR, m\angle P = 60^\circ, m\angle R = 30^\circ, PR = 2a, PQ = aQR = ?$

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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.

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87. If line line 'l' is parallel to y-axis then what is the equation of line 'l'.

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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?

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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 9cm?

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98. {i}Find the curved surface area of cone if its base radius is 12 cm and slant height = 7 cm.

{ii} Find the surface area of the sphere if radius is 14 cm.

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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 cm , 12 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.

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103. What is volume of sphere whose radius is 4 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 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 h=12cm, l=13cm, r=?

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108. If curved surface area of a cone $18753.6cm^3$ 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.

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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 $864cm^2$. Find the volume?

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2 Mark Questions

1. The sum of measure of all angle of a triangle is 180°. Draw the labelled figure of this theorem and also write given and to prove.

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2. In $\triangle LMN, \angle L = 30^\circ, \angle M = 90^\circ, \angle N = 60^\circ$ and $LN = 18, then$ find L

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3. Angles of triangle are in the ratio of 2:3:4 then find the measure of all angles.

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4. $\triangle XYZ \sim \triangle LMN$. Write the corresponding angles of the triangles and also write the ratio of the corresponding sides.

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5. In $\triangle PQR, \angle Q = 90^\circ$, PQ=12cm, QR=5cm and QS is a median, find l(QS).

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6. The measure of triangle are $x^\circ, (x+10)^\circ, (2x+10)^\circ$. 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. $\triangle PQR, \angle Q = 90^\circ, PQ = 12, QR = 5, QS$ is a medium find l(QS).

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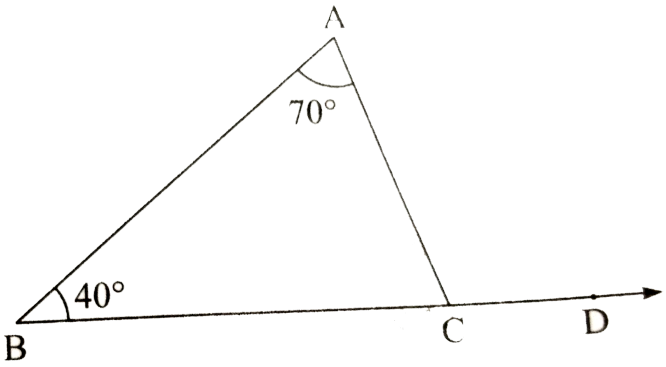

10.

In the figure , $\angle$ ACD is an exterior angle of $\triangle$ ABC, $\angle A = 70^\circ, \angle B = 40^\circ$. Find measure of $\angle$ ACD .

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11. Construct triangle ABC with sides AB=5cm, BC=9cm, and AC=6cm.

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12. Construct an equilateral triangle, if one side is 10 cm.

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13. If opposite angles of a rhombus are $3x^\circ$ and $(4x-20)^\circ$ then find the value of x.

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

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

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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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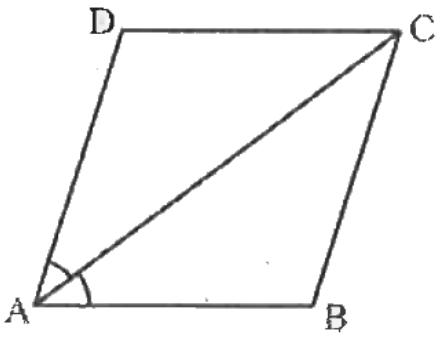
19. Diagonal AC of a parallelogram ABCD bisects A. Show that

it bisects C also



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20. Diagonals of a parallelogram intersect each other at point Q. If AQ =5, BQ =12and AB =13, then show that ABCD 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 14cm.

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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 $\sin\theta$.

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30. Find the value of, $2\tan 45^\circ + \cos 30^\circ - \sin 60^\circ$.

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

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

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33. $\dfrac{\cos 28^\circ}{\sin 62^\circ} = ?$

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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? L(-2,4), 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. 2x-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

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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 2x-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.

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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 sq. cm.

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59. If area of base of cone is 1386 sq. cm. Find its radius.

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60. Curved surface area of cylinder is $1980cm^2$ 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 sq. 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 $18000\pi cm^3$. Find its diameter.

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64. Find the volume of a sphere whose surface area is $154cm^2$

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65. Find the volume of a sphere if its surface area is $15459cm^2$?.

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

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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 $314.59cm^2$? $(\pi = 3.14)$

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70. l= 13 cm, h= 12 cm, find the radius of the cone?

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71. The volume of a cylinder is 200 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 cm . $(\pi = 3.14)$

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73. If r =6,l= 8 cm then find the total surface area of the cone?

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