MATHS

BOOKS - CHETANA MATHS (MARATHI ENGLISH)

MODEL ACTIVITY SHEET

Exercise

1. What is the ratio of 1mm to 1cm?

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2. Yamini and Fatima, two students of class X of a school, together contributed ₹1500 towards the Prime Minister's Relief Fund to help the flood victims. Write a linear equation using two variables which satisfies the data.

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3. If $T = \{1, 2, 3, 4, 5\}$ and $M = \{4, 5, 6, 7, 8\}$, then what is $T \cap M$?

4. What is the class mark of class 45-55 ?

5. Write the following surd in simplest form.
$-\dfrac{4}{5}\sqrt{75}$

6. Find the value of $\dfrac{a + 9b}{a - 9b}$ if $\dfrac{a}{b} = \dfrac{3}{7}$

7. Determine whether $(x + 1)$ is a factor of $x^3 - x^2 - \left(2 + \sqrt{2}\right)x + \sqrt{2}$ or not.

8. Mrs. Hinduja's age is 50 years. Last year her taxable income was ₹16,30,000. How much

income tax she has to pay?

9. Consider a small unit of a factory where there are 5 employees, a supervisor and four labourers. The labourers draw a salary of ₹9,000 per month each while the supervisor get ₹23,000 per month. Calculate median salary of this unit of factory.

10. If one card is drawn from well shuffled deck of 52 cards, then the probability of getting red face card is...a) $\frac{3}{13}$ b) $\frac{3}{4}$ c) $\frac{3}{26}$ d) $\frac{1}{13}$

A. $\frac{3}{13}$

B. $\frac{3}{4}$

C. $\frac{3}{26}$

D. $\frac{1}{13}$

Answer:

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11. $\sqrt{5}m^2 - \sqrt{5}m + \sqrt{5} = 0$. Which of the following statement is true for the given equation? a)Real and unequal roots b)Real and equal roots c)Roots are not real d)Three roots

A. Real and unequal roots

B. Real and equal roots

C. Roots are not real

D. Three roots

Answer:

12. The equations $3x - 4y = 7$ and $9x - 12y = 12$ will have....a)unique solution b)infinitely many solutions c)no solution d)two solutions

A. unique solution

B. infinitely many solutions

C. no solution

D. two solutions

Answer:

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13. If 28% GST was charged on a scooter having cost ₹$50,000$, then find the amount of CGST charged. a)₹$8,000$ b)₹$6,000$ c)₹$14,000$ d)₹$7,000$

A. 8000

B. 7500

C. 14000

D. 7000

Answer:

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14. Find the $25th$ term of A.P

12, 16, 20, 24, ...

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15. Obtain the quadratic equation if roots are

$-3, \ -7.$

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16. The record of a weather station shows that out of the past 250 consecutive days weather forecasts were correct for 175 times. What is the probability that on a given day it was correct?

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17. If $x = 5$ is a root of the equation $kx^2 - 14x - 5 = 0$, then find the value of k.

18. Write Sample Space to form a Road Safety Committee of two members from 2 boys(B1,B2) and 2 girls(G1,G2).

19. The sum of two roots of a quadratic equation is 5 and sum of their cubes is 35. Find the equation.

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20. Prashant bought 50 shares of FV ₹100 having MV ₹180. Company gave 40% dividend on the shares. Find the rate of return on investment.

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21. Medical checkup of 180 women was conducted in a health centre in a village.50 of them were short of heamoglobin,10 suffered from cataract and 25 had respiratory disorders.The remaining women were healthy.Show the information in a pie chart.

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22. Solve:

$$5x - 6y + 30 = 0 \text{ and } 5x + 4y - 20 = 0$$

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23. A trader from Surat sold cotton clothes to a trader in Rajkot. The taxable value of cotton clothes is ₹2.5 lakhs. What is the amount of GST at 5% paid by the trader in Rajkot.

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24. Find the sum of all odd numbers from 1 to 150.

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25. If the sum of first p terms of an A.P is equal to the sum of the first q terms, then show that the sum of its first $(p+q)$ terms is zero. $(p \neq q)$.

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26. M/s Jay Chemicals purchased a liquid soap for ₹8000 (taxable value) and sold it to the consumers for ₹10,000 (taxable value). Rate of

GST is 18%. Find the amount of CGST and SGST to be paid by Jay Chemicals.

27. The sum of father's age and twice the age of his son is 70. If we double the age of the father and add it to the age of his son the sum is 95. Find their present ages.

28. Write the converse of the statement. "The diagonals of a rectangle are congruent'. Is the converse statement true?

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29. "Two pairs of sides of which of the following quadrilaterals are equal? Kite, Isosceles trapezium, Rectangle.

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30. A line is parallel to X axis is at a distance of 4 units from X- axis. Write possible equations for this line.

31. Find $\tan\theta$ if $\sin\theta$ = 4/5 and $5 \times \cos theat$= 3.

32. Solve the following (Any 2) Total surface area of a cuboid is 400 cm. Height of the cuboid is 20 cm. Find the perimeter of the base of the cuboid.

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33. Choose the correct altenative : out of the dates given below which date contitutes a pythagorean triplet?

A. (A) 15/08/17

B. (B) 16/08/17

C. (C) 3/5/17

D. (D) 4/9/15

Answer:

34. $\sin 35 \times \cos 55$ =.......

A. (A) Not possible to find

B. (B) tan 55

C. (C) cot 35

D. (D) 1

Answer:

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35. If $A = r^2 \left[\dfrac{\pi\theta}{360} - \dfrac{\sin\theta}{2} \right]$; the A in the

formula is......

A. (A) Length of an arc

B. (B) Area of circle

C. (C) Area of sector

D. (D) Area of a segment

Answer:

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36. Stop of a line parallel to X axis is

A. (A) 1

B. (B) 0

C. (C) Not defined

D. (D) None of the above.

Answer:

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37. (B) Solve the following : (1) A circle with centre 'O' and radius 12 cm has a chord AB. $\angle AOB = 30°$. Find A($\triangle AOB$).

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38. A line is parallel to X axis is at a distance of 4 units from X- axis. Write possible equations for this line.

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39. Slope of a line parallel to X axis is

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40. If $\tan\theta + \dfrac{1}{\tan\theta} = 2$, then show that $\tan^2\theta + \dfrac{1}{\tan^2\theta} = 2$.

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41. Write the converse of the statement. "The diagonals of a rectangle are congruent". Is the converse statement true?

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42. Solve the following question:(1) If two lines are perpendicular to each other then product of its slopes is '-1'. Find the slope of a line which is perpendicular to line AB if A(3,0) and B(0,2).

43. Volume of a soild with uniform cross-sectional area is given by area of $base \times height.$ Find the volume of a

hexagonal prism whose base has each side measuring 6 cm and height is $\dfrac{4}{\sqrt{3}}$ cm. (Hint: Area of regular hexagon $= 3\dfrac{\sqrt{3}}{2} \times side^2$)

44. Solve the following questions : (Any2) (1)

Draw a circle with centre P and radius 3.5 cm. Take a point A on it. Draw a tangent at point A.

45. Find the coordinates of centroid of a triangle whose vertices are (3, -5), (4,3), (11-4),

46. If $\tan\theta + \dfrac{1}{\tan\theta}$ = 2, then show that $\tan^2\theta + \dfrac{1}{\tan^2\theta} = 2.$
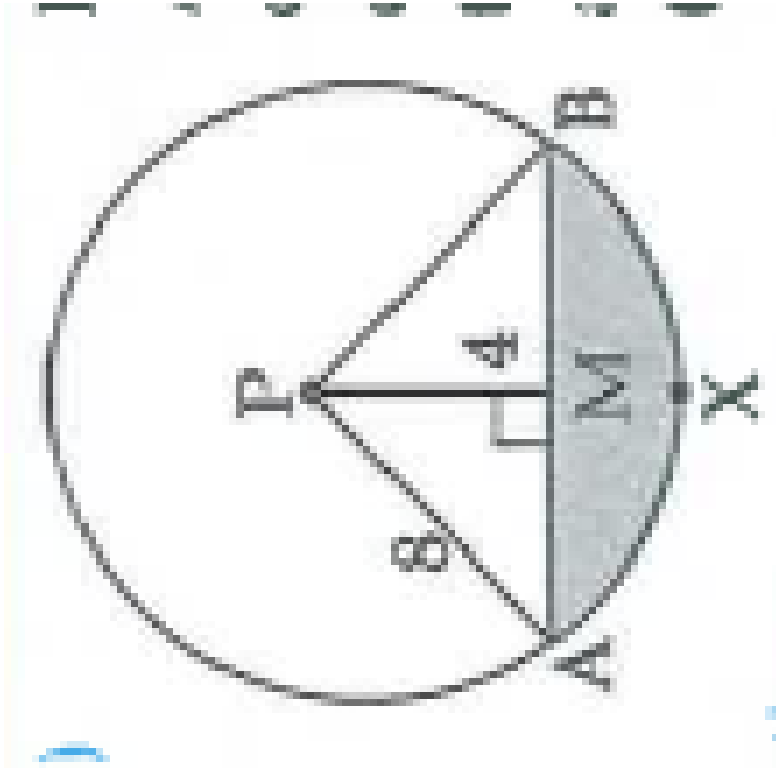
47. Solve the following question:(1) A person is stading at a distance of 80 m from a church looking at its top. The angle of elevation is of $45°$. Find the height of the church.

48. In the adjoining figure, seg AB is a chord of a circle with centre P. If PA = 8 cm and distance of chord AB from the centre P is 4 cm, find the area of the shaded portion.

$$\left(\pi = 3.14. \ \sqrt{3} = 1.73 \right)$$

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49. $\triangle \ ABC \ - \ \triangle \ PQR$, in $\triangle \ ABC$, AB - 5.4 cm, BC = 4.2 cm, AC = 6.0 cm, AB: PQ = 3:2

Construct $\triangle ABC$ and $\triangle PQR$

50. Solve the following question:(1) If two lines are perpendicular to each other then product of its slopes is '-1'. Find the slope of a line which is perpendicular to line AB if A(3,0) and B(0,2).

51. Volume of a soild with uniform cross-sectional area is given by area of $base \times height.$ Find the volume of a hexagonal prism whose base has each side measuring 6 cm and height is $\dfrac{4}{\sqrt{3}}$ cm. (Hint: Area of regular hexagon = $3\dfrac{\sqrt{3}}{2} \times side^2$)