Miscellaneous Exercise 2

1. Questions and their alternative answers are given. Choose the correct alternative answer.

(1) Find the circumference of a circle whose area is 1386 cm^2.

(A) 132 cm^2 (B) 132 cm (C) 42 cm **(D)** 21 cm^2

(2) The side of a cube is 4 m. If it is doubled, how many times will be the volume of the new cube, as compared with the original cube ?

(A) Two times (B) Three times (C) Four times (D) Eight times

2. Pranalee was practising for a 100 m running race. She ran 100 m distance 20 times. The time required, in seconds, for each attempt was as follows.

18 , 17 , 17 , 16 , 15 , 16 , 15 , 14 , 16 , 15 ,

15 , 17 , 15 , 16 , 15 , 17 , 16 , 15 , 14 , 15 Find the mean of the times taken for running.

3. Δ DEF and Δ LMN are congruent in the correspondence EDF $\leftrightarrow$ LMN. Write the pairs of congruent sides and congruent angles in the correspondence.

4. The cost of a machine is ₹ 2,50,000 . It depreciates at the rate of 4% per annum. Find the cost of the machine after three years.

5. In $\square$ ABCD side AB || side DC, seg AE $\perp$ seg DC. If l (AB) = 9 cm, l (AE) = 10 cm, A($\square$ ABCD) = 115 cm^2, find l (DC).

6. The diameter and height of a cylindrical tank is 1.75 m and 3.2 m respectively. How much is the capacity of tank in litre ? ($\pi = \frac{22}{7}$)

7. The length of a chord of a circle of 16.8 cm, radius is 9.1 cm. Find its distance from the centre.

8. The following tables shows the number of male and female workers, under employment gurantee scheme, in villages A, B, C and D.

Village	A	B	C	D
No. of females	150	240	90	140
No. of males	225	160	210	110

(1) Show the information by a sub-divided bar-diagram.

(2) Show the information by a percentage bar diagram.

9. Solve the following equations.

(1) $17(x+4)+8(x+6)=11(x+5)+15(x+3)$

(2) $\frac{3y}{2}+\frac{y+4}{4}=5-\frac{y-2}{4}$ (3) $5(1-2x)=9(1-x)$

10. Complete the activity according to the given steps.

(1) Draw rhombus ABCD. Draw diagonal AC.

(2) Show the congruent parts in the figure by identical marks.

(3) State by which test and in which correspondence ΔADC and ΔABC are congruent.

(4) Giev reason to show $\angle DCA \cong \angle BCA$, and $\angle DAC \cong \angle BAC$

(5) State which property of a rhombus is revealed from the above steps.

11. The shape of a farm is a quadrilateral. Measurements taken of the farm, by naming its corners as P, Q, R, S in order are as follows. $l(PQ) = 170$ m, $l(QR) = 250$m, $l(RS) = 100$ m, $l(PS) = 240$ m, $l(PR) = 260$ m.

Find the area of the field in hectare (1 hectare =10,000 sq.m)

12. In a library, 50% of total number of books is of Marathi. The books of English are $\frac{1}{3}$ rd of Marathi books. The books on mathematics are 25% of the English books. The remaining 560 books are of other subjects. What is the total number of books in the library?

13. Divide the polynomial $(6x^3+11x^2-10x-7)$ by the binomial $(2x+1)$. Write the quotient and the remainder.

Answers

1. (1) B (2) D **2.** 15.7 second

3. side ED ≅ sideLM, side DF ≅ side MN, side EF ≅ side LN, ∠ E ≅ ∠ L, ∠ D ≅ ∠ M, ∠ F ≅ ∠ N **4.** ₹ 2,21,184 **5.** 14 cm **6.** 7700

7. 3.5 cm **9.** (1) $x = 16$, (2) $y = \frac{9}{4}$ (3) $x = -4$ **11.** 3.24 hectare

12. 1920 **13.** $3x^2 + 4x - 7$, remainder 0