

- I. 1. B) 1
 2. D) $a^m \times n$
 3. A) 14 cm
 4. C) 0.00045
 5. D) x^2
 6. B) 3487
 7. C) 4
 8. A) $6pq$ and $(p - 5q)$
 9. A) 12
 10. C) ₹ 200
 11. B) Double bar graph
 12. D) ₹ 5
 13. C) $7a + 3ab + 2b$
 14. D) 5 cm
 15. A) ₹ 4,320
 16. B) $\frac{1}{6}$

(16×1=16)

II.17. $\frac{+35}{81}$ ∴ The value of A = 6

1

18. Lateral surface area of cuboid

$$= 2h(l + b) \quad \text{or} \quad = 2(l \times h + b \times h)$$

1

19. $F + V = E + 2$

$\frac{1}{2}$

$$6 + V = 12 + 2$$

$$V = 8$$

$\frac{1}{2}$

20. If two coins are tossed simultaneously, the outcomes obtained are {HH, HT, TH, TT}.

1

Que. No. 17 to 20, full marks to be given even the answers are written directly.

III. 21.

$$\begin{array}{r|l} 67 & 4489 \\ \hline 6 & 4489 \\ +6 & 36 \\ \hline 127 & 889 \\ & 889 \\ \hline & 0 \end{array}$$

1

$$\therefore \sqrt{4489} = 67$$

1

22. $9a^2 - 16b^2 = (3a)^2 - (4b)^2$

It is in the form of $a^2 - b^2$

$\frac{1}{2}$

$$\therefore a = 3a \quad b = 4b$$

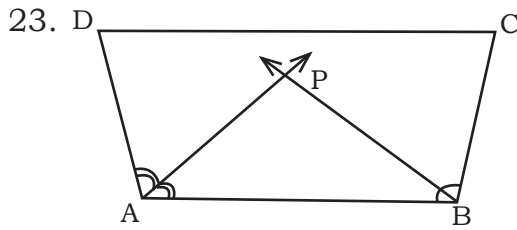
$$\therefore a^2 - b^2 = (a + b)(a - b)$$

$\frac{1}{2}$

$$\therefore (3a)^2 - (4b)^2 = (3a + 4b)(3a - 4b)$$

1

(Students answered in any alternate method should be given full marks)



In the fig., $\angle C + \angle D = 140^\circ$

AP and BP divides $\angle A$ and $\angle B$ equally.

In the fig.

$$\angle A + \angle B + \angle C + \angle D = 360^\circ \quad \frac{1}{2}$$

$$\angle A + \angle B + 140^\circ = 360^\circ, \quad \angle A + \angle B = 360^\circ - 140^\circ, \quad \angle A + \angle B = 220^\circ \quad \frac{1}{2}$$

In $\triangle APB$,

$$\frac{1}{2} \angle A + \frac{1}{2} \angle B + \angle APB = 180^\circ \quad \frac{1}{2}$$

$$\frac{1}{2} (\angle A + \angle B) + \angle APB = 180^\circ, \quad \frac{1}{2} (220^\circ) + \angle APB = 180^\circ, \quad \angle APB = 180^\circ - 110^\circ, \quad \angle APB = 70^\circ \quad \frac{1}{2}$$

(If students done in any alternate method then full marks should be given)

24. (i) 37.5°C

1

(ii) 11.00 a.m.

1

25.

No. of Machines (x)	x_1	x_2
	42	x_2
No. of Days (y)	63	54
	y_1	y_2

$$x_1 \times y_1 = x_2 \times y_2 \quad 1$$

$$x_2 = \frac{x_1 \times y_1}{y_2}, \quad x_2 = \frac{42 \times 63}{54}, \quad x_2 = 49 \quad 1$$

\therefore 49 machines are required to complete in 54 days.

26. $a = \frac{1}{2}$, $b = \frac{2}{7}$ and $c = \frac{5}{7}$

$$\text{LHS} = a \times (b + c)$$

$$= \frac{1}{2} \times \left(\frac{2}{7} + \frac{5}{7} \right)$$

$$= \frac{1}{2} \times \left(\frac{7}{7} \right)$$

$$= \frac{1}{2}$$

$$\text{RHS} = (a \times b) + (a \times c) \quad (1+1)$$

$$= \left(\frac{1}{2} \times \frac{2}{7} \right) + \left(\frac{1}{2} \times \frac{5}{7} \right)$$

$$= \frac{2}{14} + \frac{5}{14}$$

$$= \frac{7}{14}$$

$$= \frac{1}{2}$$

$$\therefore \text{LHS} = \text{RHS}$$

IV.27. Let three consecutive multiples of 11 be x , $x + 11$ and $x + 22$

$$\therefore x + x + 11 + x + 22 = 363$$

$$3x + 33 = 363, \quad x = \frac{363-33}{3}, \quad \boxed{x = 110}$$

$$\therefore x = 110, \quad x + 11 = 110 + 11 = 121, \quad x + 22 = 110 + 22 = 132$$

\therefore Three consecutive multiples of 11 are 110, 121 and 132

28. C.P. of T.V. = ₹ 10,000

Marked price,

$$\text{M.P.} = 10,000 + \frac{20}{100} \times 10,000$$

$$= 10,000 + 2,000, \quad \text{M.P.} = ₹ 12,000$$

Rate of discount = 10%

\therefore Discount = Rate of discount \times M.P.

$$= \frac{10}{100} \times 12000$$

$$= ₹ 1,200$$

\therefore Selling price,

S.P. = M.P. - Discount

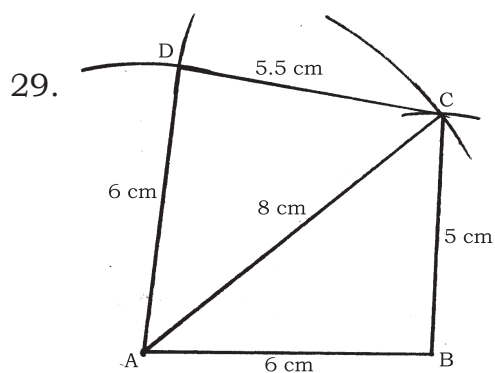
$$= 12,000 - 1,200$$

S.P. = 10,800

Profit = S.P. - C.P.

$$= 10,800 - 10,000$$

Profit = ₹ 800



Drawing line segment AB, Constructing arcs AC and BC

Joining AC and BC, Constructing arcs AD and DC

Joining AD and DC

V. 30. Given h = 10 cm

Circumference, $2\pi r = 22$ cm

$$\therefore r = \frac{22}{2\pi}, \quad = \frac{22}{2 \times \frac{22}{7}}, \quad r = 3.5 \text{ cm}$$

1

The amount of juice in 1 glass is = $\pi r^2 h$

$\frac{1}{2}$

$$= \frac{22}{7} \times (3.5)^2 \times 10$$

$$= 385 \text{ cm}^3$$

1

\therefore The amount of juice required for 50 guests is = 385×50

$\frac{1}{2}$

$$= 19250 \text{ cm}^3$$

$\frac{1}{2}$

$$= \frac{19250}{1000} \text{ l}$$

$$= 19.25 \text{ liters}$$

$\frac{1}{2}$

VI.31.

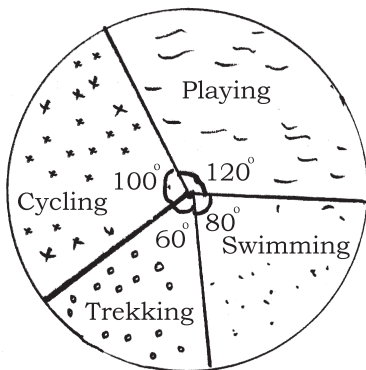
Activities	Number of Students	Central angle
Playing	12	$\frac{12}{36} \times 360^\circ = 120^\circ$
Cycling	10	$\frac{10}{36} \times 360^\circ = 100^\circ$
Trekking	06	$\frac{06}{36} \times 360^\circ = 60^\circ$
Swimming	08	$\frac{08}{36} \times 360^\circ = 80^\circ$
Total	36	360°

$\frac{1}{2}$

$\frac{1}{2}$

$\frac{1}{2}$

$\frac{1}{2}$



Drawing circle

Constructing 4 angles

Naming

$\frac{1}{2}$

$$4 \times \frac{1}{2} = 2$$

$\frac{1}{2}$