

Notes for valuers

- Award step marks for correct method even if the final answer has a small arithmetic slip.
- Accept any other correct method.
- Section D: only one of (a) or (b) is to be valued.

SECTION – A**20 × 1 = 20**

1. B) 100
2. B) 10 lakh
3. A) 7,05,00,000
4. C) 7,900
5. B) 12
6. C) 24
7. B) $(2 + 3) \times 2$
8. A) $\frac{1}{4}$
9. B) 0.03
10. B) ₹1.25
11. B) 0.5
12. B) $n - 5$
13. C) 17
14. A) $2(l + b)$
15. B) 110°
16. A) equal
17. C) 55°
18. A) 120°
19. C) equilateral
20. B) odd

SECTION – B**4 × 2 = 8**

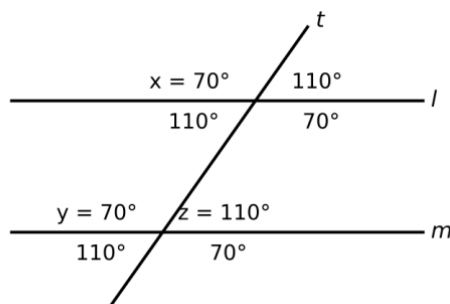
21. **7,50,00,000** — seven crore fifty lakh [1 + 1]
22. $36 - 4 \times (3 + 2) = 36 - 4 \times 5 = 36 - 20 = 16$ [1 + 1]
23. (i) 3, 5, 7, ... each new triangle adds 2 sticks: **$2n + 1$** [1 + 1]
(ii) $2 \times 10 + 1 = 21$ **matchsticks**
24. Complement = $90^\circ - 40^\circ = 50^\circ$; supplement = $180^\circ - 40^\circ = 140^\circ$ [1 + 1]

SECTION – C**5 × 4 = 20**

25. (i) Estimate: $38,000 + 50,000 = 88,000$; exact sum = $38,256 + 49,815 = 88,071$ [2 + 2]
(ii) **384,400 km** — three hundred eighty-four thousand four hundred kilometres

26. (i) $7.08 + 12.90 = 19.98$ [1 each]
 (ii) $25.00 - 7.65 = 17.35$
 (iii) **0.8** is greater, because $0.8 = 0.80$ and 80 hundredths > 75 hundredths.
 (iv) **0.46**

27. $x = 70^\circ$ (vertically opposite to 70°) [4]
 $y = 70^\circ$ (corresponding to x , since $l \parallel m$)
 $z = 180^\circ - 70^\circ = 110^\circ$ (linear pair with y)



28. (i) Last digit 6 is even $\rightarrow$ **divisible by 2**. Sum of digits $2 + 3 + 4 + 6 = 15$, divisible by 3 $\rightarrow$ **divisible by 3**.
 Divisible by both 2 and 3 $\rightarrow$ **divisible by 6**. [2 + 2]
 (ii) Consecutive numbers are n and $n + 1$. Sum $= 2n + 1$, which is one more than an even number, so it is always **odd** (one of them is even and the other odd).
 29. (i) Cost = $\text{₹}(4x + 3y)$; when $x = 30$, $y = 10$: $120 + 30 = \text{₹}150$ [3 + 1]
 (ii) **$4m + 7n$**

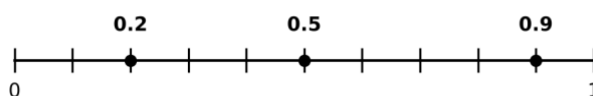
SECTION – D $4 \times 8 = 32$

30. a) (i) Place value charts: [3 + 3 + 2]

Indian	Ten crore	Crore	Ten lakh	Lakh	Ten thousand	Thousand	Hundred	Ten	One
International	Hundred million	Ten million	Million	Hundred thousand	Ten thousand	Thousand	Hundred	Ten	One

- (ii) **$5,08,247 < 5,08,742 < 5,80,247 < 5,87,420$**
 (iii) Nearest ten thousand: **6,70,000**; nearest lakh: **7,00,000**
 30. b) (i) $250 - 18 - 12 \times 15 = 250 - 18 - 180 = 52$ eggs [3 + 3 + 2]
 (ii) $20 - 8 \div 4 = 20 - 2 = 18$; $(20 - 8) \div 4 = 12 \div 4 = 3$. Division is done before subtraction unless brackets tell us to do the subtraction first.
 (iii) $100 - 50 \div 5 \times 2 = 100 - 10 \times 2 = 100 - 20 = 80$

31. a) (i) 5 m 7 cm = **5.07 m**; 3 kg 450 g = **3.45 kg** [2 each]
 (ii) $10 - (3.75 + 2.4) = 10 - 6.15 = 3.85$ m
 (iii) **$1.02 < 1.2 < 1.202 < 1.22$**
 (iv) **$A = 0.2, B = 0.5, C = 0.9$**



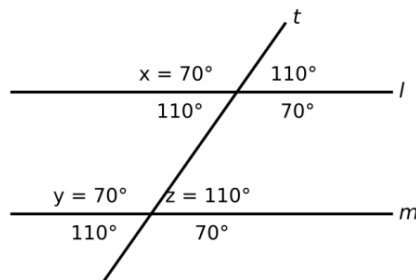
31. b) (i) Perimeter = **$3a$** ; when $a = 6.5$ cm, perimeter = **19.5 cm** [2 each]
 (ii) $8x + 4 - 3x = 5x + 4$
 (iii) $3^2 + 2 \times 3 = 9 + 6 = 15$
 (iv) **$3n - 5$**

32. a) (i) $(2x + 10) + (3x - 5) = 180 \rightarrow 5x + 5 = 180 \rightarrow x = 35$; angles **80° and 100°** [4 + 4]

(ii) $a + (a + 30) = 180 \rightarrow 2a = 150 \rightarrow a = 75$; angles **75° and 105°**

32. b) (i) A line that cuts two or more lines at different points is a **transversal**. In the student's figure: corresponding angles are in matching positions at the two intersections; alternate interior angles lie between the parallel lines on opposite sides of the transversal; vertically opposite angles are opposite each other at the same point. [5 + 3]

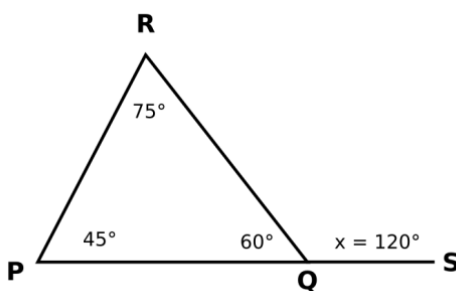
(ii) The angle between perpendicular lines is **90°**. Examples: corners of a door or book, the two lines of the plus sign, a wall and the floor.



33. a) (i) $\angle PQR = 180^\circ - (45^\circ + 75^\circ) = 60^\circ$; $x = 180^\circ - 60^\circ = 120^\circ$ (linear pair) [3 + 3 + 2]

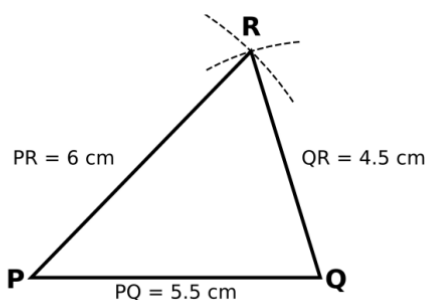
(ii) $45^\circ + 75^\circ = 120^\circ = x$. So the **exterior angle equals the sum of the two interior opposite angles**.

(iii) $180^\circ - 90^\circ - 35^\circ = 55^\circ$



33. b) (i) Steps: draw $PQ = 5.5$ cm. With P as centre and radius 6 cm draw an arc. With Q as centre and radius 4.5 cm draw an arc cutting the first arc at R. Join PR and QR. [6 + 2]

(ii) **No.** $2 + 3 = 5$, which is less than 6. The sum of any two sides of a triangle must be greater than the third side.



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