

CDS Elementary Mathematics — Practice Set 1 — Answer Key

ANSWER KEY

CDS (UPSC) Elementary Mathematics · practice set by Atulya Defence Academy

Answer key

1	2	3	4	5	6	7	8	9	10
A	B	B	C	B	A	B	B	A	A
11	12	13	14	15	16	17	18	19	20
B	C	B	A	B	B	B	C	B	A
21	22	23	24	25					
B	A	B	A	A					

Solutions & explanations

Q1 — (A) $0.15 \times 0.20 \times 1000 = 30$.

Q2 — (B) $SP = 0.75 \times CP \Rightarrow CP = 120/0.75 = ₹160$.

Q3 — (B) $42^2 = 1764$.

Q4 — (C) Coprime numbers: $3 \times 5 \times 7 = 105$.

Q5 — (B) $5000 \times 1.1^2 = 6050$.

Q6 — (A) $60 \times 5/18 = 50/3 \approx 16.67$ m/s.

Q7 — (B) $22/7 \times 49 = 154$.

Q8 — (B) $\frac{1}{2} \times 12 \times 5 = 30$.

Q9 — (A) $\sqrt{(144 + 25)} = 13$.

Q10 — (A) Speed = $360/18 = 20$ m/s = $20 \times 18/5 = 72$ km/h.

Q11 — (B) $3x = 18$.

Q12 — (C) $36 = 2^2 \cdot 3^2$, $48 = 2^4 \cdot 3 \Rightarrow \text{HCF} = 12$.

Q13 — (B) $150/5 = 30$.

Q14 — (A) $180 - 140 = 40^\circ$.

Q15 — (B) Expansion gives $4ab$.

Q16 — (B) $64 \times 5/8 = 40$.

Q17 — (B) $1/10 + 1/15 = 1/6$.

Q18 — (C) $4^3 = 64$.

Q19 — (B) $\sin(30^\circ + 60^\circ) = \sin 90^\circ = 1$.

Q20 — (A) Sorted: 1, 3, 5, 7, 9 $\rightarrow$ median 5.

Q21 — (B) 3 occurs most often (three times).

Q22 — (A) $2000 \times 5 \times 3 / 100 = 300$.

Q23 — (B) $360^\circ/5 = 72^\circ$.

Q24 — (A) $1/x = 2 - \sqrt{3}$, so $x + 1/x = 4$.

Q25 – (A) $6a^2 = 150 \Rightarrow a = 5$.

Scoring: One-third of the marks of a question is deducted for each wrong answer in the CDS exam.