

CLAT Community

daily
QT

SECTIONAL TEST

49

DAYS TO GO FOR
CLAT 2027



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OUR RANKERS

1 in every 4 of CLAT Community's students
are now placed in Top 5 NLU's.



SAHER GOLE



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SUHIT KENDURKAR



RIYA CHAUHAN



SHEIKH EHSAN KHALEELULLAH



HRISHIT PODDAR



ROHAN YADAV



TEJAS ROY



ANIRUDDH BAJAJ



KABIR WADHWANI



CANCHI SISTLA AKSHARA



SHIVAM TRIPATHI



HARDIK GAUTAM



MANYA BHASKAR



NAMASHRITA GOPINATH



RONIL DHASAL



VEDA RAO



SAMANDAR SINGH



GANJI HAINDAVI



SAHISHNA



PRANAV. S

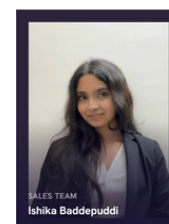
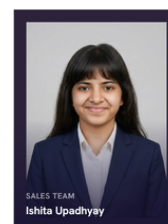
AND
MANY
MORE.

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OUR COURSES



OUR MENTORS



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MENTORS' NOTE

Good morning everyone,

If you're reading this, you're already doing something that thousands of CLAT aspirants never do—you've shown up today. That might sound like a small thing, but over the next few months you'll realise that success in CLAT is rarely decided by one brilliant mock or one 12-hour study session. It's decided by the hundreds of ordinary days where you choose to sit down and study even when you don't feel like it.

The entire CLAT Community team is rooting for you. Whenever you're stuck, ask doubts, discuss questions, and make use of the people around you. You don't have to prepare alone. We hope today's material helps you take one more step towards your dream.

Now stop reading this note and get to work. Your future self will thank you for the effort you put in today.

All the best.

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DAILY QT**PASSAGE 1 — ROADROUTE TRANSPORT: AVERAGE SPEED, ROUND TRIPS & VARYING PACE**

RoadRoute Transport plans intercity routes for buses, cargo vans and cyclists. Its planners work out average speeds for journeys in which the speed changes by segment, by direction or by time. Note that an average speed is total distance divided by total time, not the simple average of the speeds. Unless stated otherwise, all distances are in km and all speeds in km/h.

1. A car drives 120 km to a city at 40 km/h and returns along the same road at 60 km/h. Its average speed for the whole round trip is:

- (A) 45 km/h
- (B) 48 km/h
- (C) 50 km/h
- (D) 52 km/h

2. A cyclist climbs a 12 km hill at 8 km/h and descends the same 12 km at 24 km/h. The average speed for the whole trip is:

- (A) 12 km/h
- (B) 14 km/h
- (C) 16 km/h
- (D) 10 km/h

3. A 300 km journey is split into three equal parts, driven at 60 km/h, 75 km/h and 50 km/h respectively. The average speed for the whole journey is:

- (A) 58 km/h
- (B) 60 km/h
- (C) 62 km/h
- (D) 64 km/h

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4. A runner spends half of a 3-hour run at 9 km/h and the other half at 15 km/h. The distance covered in the 3 hours is:

- (A) 30 km
- (B) 36 km
- (C) 40 km
- (D) 42 km

5. A walker goes from town X to town Y at 4 km/h and returns at 6 km/h, taking a total of 5 hours for the round trip. The one-way distance between X and Y is:

- (A) 10 km
- (B) 14 km
- (C) 12 km
- (D) 16 km

6. Using the car from Question 1, the outward journey is at 40 km/h. The return speed needed for the round trip to average exactly 50 km/h is:

- (A) 60 km/h
- (B) $200/3$ km/h
- (C) 64 km/h
- (D) 70 km/h

PASSAGE 2 — CUBIX SCULPTURE STUDIO: PAINTED CUBES & FACE COUNTING

Cubix Sculpture Studio builds stacked art pieces from solid cubes. A solid $5 \times 5 \times 5$ cube is painted on all six outer faces and then cut into 125 unit cubes. Each unit cube is then classified by how many of its faces are painted. Question 12 changes the size of the original cube, so answer it from the general pattern rather than the $5 \times 5 \times 5$ case alone.

7. The number of unit cubes with no painted face is:

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(A) 27

(B) 25

(C) 36

(D) 9

8. The number of unit cubes with exactly one painted face is:

(A) 36

(B) 48

(C) 54

(D) 42

9. The number of unit cubes with exactly two painted faces is:

(A) 24

(B) 36

(C) 48

(D) 30

10. The number of unit cubes with exactly three painted faces is:

(A) 12

(B) 6

(C) 4

(D) 8

11. Counting every painted face of every unit cube (so a cube with two painted faces counts twice), the total number of painted faces is:

(A) 125

(B) 175

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(C) 120

(D) 150

12. The same painting process is applied to a solid $10 \times 10 \times 10$ cube, cut into 1000 unit cubes. The number of unit cubes with exactly one painted face is:

(A) 336

(B) 288

(C) 384

(D) 432



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ANSWER KEY**PASSAGE 1 — ROADROUTE TRANSPORT (AVERAGE SPEED)**

Q1: (B) 48 km/h — Harmonic mean for equal distances: $2 \times 40 \times 60 / (40 + 60) = 48$.

Q2: (A) 12 km/h — Total distance 24 km in time $1.5 \text{ h} + 0.5 \text{ h} = 2 \text{ h}$, so $24 / 2 = 12$.

Q3: (B) 60 km/h — Average = $3 / (1/60 + 1/75 + 1/50) = 3 / (1/20) = 60$.

Q4: (B) 36 km — Half the time (1.5 h) at 9 km/h gives 13.5 km; 1.5 h at 15 km/h gives 22.5 km. Total 36 km.

Q5: (C) 12 km — Time for one-way distance d is $d/4 + d/6 = 5d/12$. Setting $5d/12 = 5$ gives $d = 12$.

Q6: (B) $200/3$ km/h — For equal distances, average = $2 \times 40 \times v / (40 + v) = 50$. Solving gives $80v = 2000 + 50v$, so $v = 200/3$.

PASSAGE 2 — CUBIX SCULPTURE STUDIO (PAINTED CUBES)

Q7: (A) 27 — Interior unit cubes form a $3 \times 3 \times 3$ block: $3^3 = 27$.

Q8: (C) 54 — Each of 6 faces contributes a 3×3 block: $6 \times 9 = 54$.

Q9: (B) 36 — Each of 12 edges contributes 3 interior cubes: $12 \times 3 = 36$.

Q10: (D) 8 — Each of the 8 corners is painted on three faces.

Q11: (D) 150 — Each of the 6 faces has 25 unit squares, so $6 \times 25 = 150$. Check: $54 \times 1 + 36 \times 2 + 8 \times 3 = 54 + 72 + 24 = 150$.

Q12: (C) 384 — For an $n \times n \times n$ cube, the one-painted-face count is $6(n - 2)^2$. For $n = 10$: $6 \times 64 = 384$.

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