

CLAT Community

daily
QT

SECTIONAL TEST

50

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.



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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

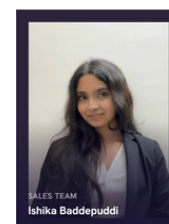
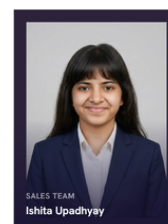
AND
MANY
MORE.

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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 — BREWLINE LABS: REPEATED REMOVAL, REPLACEMENT & DILUTION

BrewLine Labs runs dilution experiments in which a fixed volume of liquid is repeatedly drawn out of a vessel and topped up with a different liquid. Each experiment tracks how much of the original substance remains after each step. Unless stated otherwise, every removal is taken from a thoroughly stirred mixture, so the substance is removed in the same proportion as it exists in the vessel.

1. Tank T holds 100 L of pure acid. Twenty litres of the mixture are removed and replaced with water, and this is repeated once more. The acid remaining after two operations is:

- (A) 64 L
- (B) 60 L
- (C) 72 L
- (D) 68 L

2. Using the same operation as in Question 1 (20 L removed and replaced with water each time), the minimum number of operations needed to reduce the acid below 25 L is:

- (A) 5
- (B) 6
- (C) 7
- (D) 8

3. Vessel B holds 60 L of a milk–water mixture containing 36 L of milk. Fifteen litres are removed and replaced with water, and then fifteen litres are again removed and replaced with water. The milk remaining is:

- (A) 21 L

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- (B) 19.5 L
- (C) 22.5 L
- (D) 20.25 L

4. Vessel C holds 50 L of a spirit solution containing 10 L of spirit. At each step, 5 L of the mixture are removed and 5 L of pure spirit are added. The minimum number of steps after which the spirit content exceeds 30 L is:

- (A) 6
- (B) 7
- (C) 8
- (D) 9

5. A vessel holds 90 L of pure milk. A certain volume is removed and replaced with water, and then the same volume is removed and replaced with water again. The milk remaining is 40 L. The total volume of milk removed across both steps is:

- (A) 30 L
- (B) 45 L
- (C) 50 L
- (D) 60 L

6. Using the Tank T process from Question 1, the total acid remaining in the tank after the first, second and third operations, taken together, is:

- (A) 195.2 L
- (B) 190 L
- (C) 200 L

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(D) 186.4 L

PASSAGE 2 — LAKEVIEW TOWERS: SHADOWS, SIMILAR TRIANGLES & RATIO GEOMETRY

Lakeview Towers is an architectural firm that uses shadow measurements, similar triangles and ratio-based geometry to check building heights, sightlines and layouts. Surveyors record shadow lengths under the same sun angle and use them to find heights. Question 12 builds on the flagpole height found in Question 7.

7. At a certain time, a 1.8 m tall boy casts a shadow of 2.4 m, and a flagpole at the same spot casts a shadow of 16 m. The height of the flagpole is:

- (A) 10 m
- (B) 12 m
- (C) 14 m
- (D) 15 m

8. Two vertical poles of heights 6 m and 10 m stand on level ground 20 m apart. A straight wire joins the top of each pole to the base of the other. The height above the ground at which the two wires cross is:

- (A) 3.75 m
- (B) 4 m
- (C) 4.5 m
- (D) 3 m

9. In the setup of Question 8, the horizontal distance from the base of the 6 m pole to the point where the wires cross is:

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- (A) 8 m
- (B) 6.25 m
- (C) 10 m
- (D) 7.5 m

10. In triangle ABC, a line DE is drawn parallel to BC, with D on AB and E on AC, such that $AD : DB = 2 : 3$. If the area of triangle ADE is 16 cm^2 , the area of triangle ABC is:

- (A) 80 cm^2
- (B) 96 cm^2
- (C) 100 cm^2
- (D) 120 cm^2

11. A 13 m ladder leans against a vertical wall with its foot 5 m from the wall, so its top is at height 12 m. The foot is then pulled out so that it is 8 m from the wall, with the ladder still touching the wall. The distance the top of the ladder descends is closest to:

- (A) 2.0 m
- (B) 1.75 m
- (C) 1.5 m
- (D) 2.5 m

12. Using the flagpole height from Question 7, a 1.8 m tall boy stands in the same sunlight, and the flagpole casts a shadow of 20 m. The length of the boy's shadow at that time is:

- (A) 3.0 m
- (B) 2.4 m
- (C) 2.7 m
- (D) 3.6 m

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ANSWER KEY**PASSAGE 1 — BREWLINE LABS (REPEATED REMOVAL & DILUTION)**

Q1: (A) 64 L — Each operation keeps 80% of the acid, so $100 \times 0.8^2 = 64$.

Q2: (C) 7 — Acid after n operations is 100×0.8^n . After 6 operations it is about 26.2 L; after 7 it is about 20.97 L.

Q3: (D) 20.25 L — Milk after the first removal is $36 \times 45/60 = 27$ L. After the second, it is $27 \times 45/60 = 20.25$ L.

Q4: (B) 7 — Spirit after each step is $0.9 \times \text{previous} + 5$: 10, 14, 17.6, 20.84, 23.76, 26.38, 28.74, 30.87. It first exceeds 30 L at step 7.

Q5: (C) 50 L — Each removal is x L with $90(1 - x/90)^2 = 40$, so $1 - x/90 = 2/3$ and $x = 30$. Milk removed is 30 L in step one and $30 \times 2/3 = 20$ L in step two, totalling 50 L.

Q6: (A) 195.2 L — Acid after operations 1, 2 and 3 is $80 + 64 + 51.2 = 195.2$ L.

PASSAGE 2 — LAKEVIEW TOWERS (SHADOWS & SIMILAR TRIANGLES)

Q7: (B) 12 m — Height = $1.8 \times 16 / 2.4 = 12$ m.

Q8: (A) 3.75 m — Height of crossing = $(6 \times 10) / (6 + 10) = 3.75$ m.

Q9: (D) 7.5 m — The wires are $y = 6(1 - x/20)$ and $y = 10(x/20)$. Equating gives $x = 7.5$ m, with height 3.75 m.

Q10: (C) 100 cm² — Triangles ADE and ABC are similar with ratio $AD/AB = 2/5$. Area ratio is $4/25$, so area ABC = $16 \times 25/4 = 100$ cm².

Q11: (B) 1.75 m — New top height = $\sqrt{(13^2 - 8^2)} = \sqrt{105} \approx 10.25$ m. Drop = $12 - 10.25 \approx 1.75$ m.

Q12: (A) 3.0 m — Boy's shadow = $1.8 \times 20 / 12 = 3.0$ m, using the 12 m flagpole height from Question 7.

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