

CLAT Community

daily
QT

SECTIONAL TEST

46

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 NLUs.



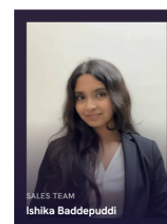
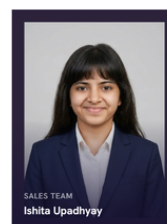
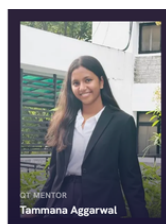
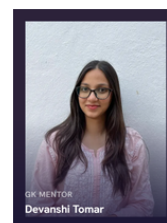
AND
MANY
MORE.

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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 — TRANSITPULSE CONSULTING: MEAN, MEDIAN & GROUPED-DATA STATISTICS

TransitPulse Consulting surveys office employees about their daily commute, so that companies can plan staff shuttles and parking. In its latest study, the firm collected one-way travel times from 40 employees working in a single business park. The survey was conducted over two weeks in March, and respondents reported their typical travel time on working days when they reached the office. The times were grouped into five classes of equal width, and the number of employees in each class is shown below.

Commute time (minutes): 0–10 — 5 employees; 10–20 — 8 employees; 20–30 — 12 employees; 30–40 — 10 employees; 40–50 — 5 employees.

The consultants compare measures of central tendency for different purposes. For grouped data, the mean is estimated by treating every employee in a class as having the class midpoint. The median is located in the class containing the middle observation and is estimated by interpolation within that class. The company also tracks how many employees face long commutes, which it defines as travel of 30 minutes or more, and how many have short commutes, defined as under 20 minutes. Management often asks what happens to the averages when a few employees change class, for example after an office relocation. Unless stated otherwise, midpoints are used, and every time is one-way.

1. The mean commute time, estimated from class midpoints, is (in minutes):

- (A) 24.5
- (B) 25.5
- (C) 26.0
- (D) 27.0

2. The median commute time, estimated by interpolation within the median class, is closest to (in minutes):

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- (A) 25.83
- (B) 26.67
- (C) 24.17
- (D) 25.00

3. The number of employees whose commute is 30 minutes or more is:

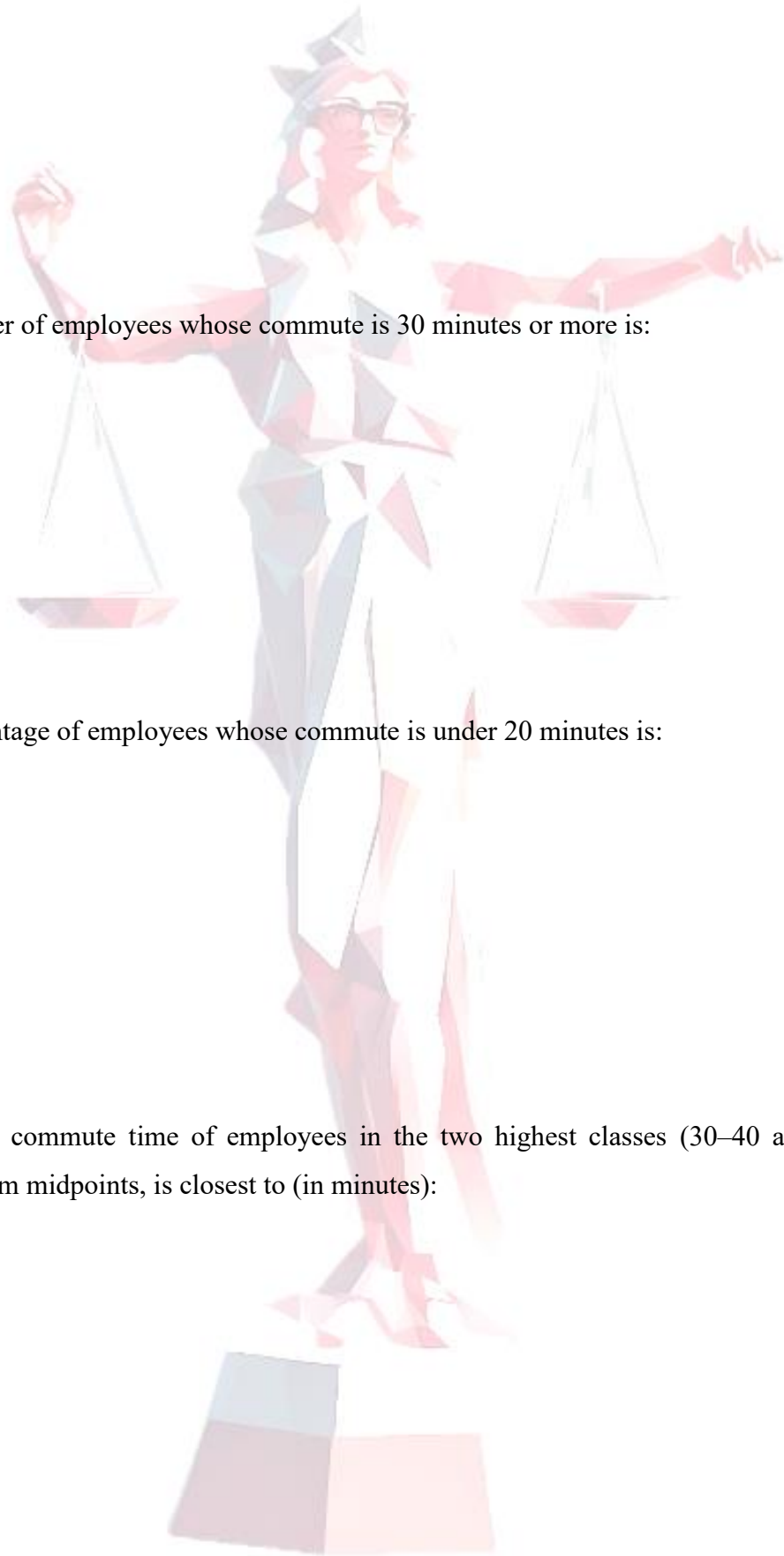
- (A) 12
- (B) 10
- (C) 15
- (D) 17

4. The percentage of employees whose commute is under 20 minutes is:

- (A) 27.5%
- (B) 30%
- (C) 35%
- (D) 32.5%

5. The mean commute time of employees in the two highest classes (30–40 and 40–50), estimated from midpoints, is closest to (in minutes):

- (A) 38.33
- (B) 40.00
- (C) 36.67
- (D) 35.00



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6. Suppose 2 employees from the 40–50 class are moved into the 0–10 class, with the total number of employees still 40. The new mean commute time, estimated from midpoints, is (in minutes):

- (A) 25.5
- (B) 22.5
- (C) 23.5
- (D) 24.0

PASSAGE 2 — NUMBERPATH CLUB: SUMS OF CONSECUTIVE SQUARES

NumberPath Club studies patterns in sums of consecutive squares. For a positive integer n , the club writes $S(n) = 1^2 + 2^2 + 3^2 + \dots + n^2$, and uses the closed form $S(n) = n(n+1)(2n+1)/6$. Members are encouraged to avoid brute-force addition, since a formula lets them check a large value at once. The club's bulletin lists several facts: the sum for the first ten integers is small enough to compute by hand, while the sums for larger n grow quickly and cross 500 and 1000 at specific points. Another topic concerns the difference between two partial sums, which equals the sum of the squares of the integers in between. Members also study sums built from only odd integers, and they test divisibility by 5 by examining the last digit of each sum.

A recent problem asked for an efficient method. Rather than adding terms one at a time, members should use the formula, factor out common terms, and then check divisibility. Competition questions often combine several of these ideas in one problem, so solvers must be comfortable moving between the formula, the sums over partial ranges, and the properties of the resulting integer. Unless stated otherwise, n is a positive integer and every sum starts from 1^2 .

7. The value of $S(15) = 1^2 + 2^2 + \dots + 15^2$ is:

- (A) 1180
- (B) 1240
- (C) 1296

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(D) 1215

8. The smallest positive integer n for which $S(n)$ exceeds 1000 is:

(A) 14

(B) 13

(C) 15

(D) 16

9. The largest positive integer n for which $S(n)$ does not exceed 500 is:

(A) 9

(B) 11

(C) 10

(D) 12

10. The sum of the squares of all odd integers from 1 to 15 (that is, $1^2 + 3^2 + 5^2 + \dots + 15^2$) is:

(A) 650

(B) 625

(C) 700

(D) 680

11. The number of integers n with $1 \leq n \leq 50$ for which $S(n)$ is divisible by 5 is:

(A) 25

(B) 30

(C) 35

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(D) 40

12. The value of $S(15) - S(10)$, which equals the sum of the squares of the integers from 11 to 15, is:

(A) 855

(B) 845

(C) 865

(D) 835



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ANSWER KEY**PASSAGE 1 — TRANSITPULSE CONSULTING (GROUPED-DATA STATISTICS)**

Q1: (B) 25.5 — Midpoints 5, 15, 25, 35, 45 give $5 \times 5 + 8 \times 15 + 12 \times 25 + 10 \times 35 + 5 \times 45 = 1020$.
Divide by 40: 25.5.

Q2: (A) 25.83 — $N/2 = 20$. The cumulative frequency before the 20–30 class is 13, and its frequency is 12. Median = $20 + (20 - 13)/12 \times 10 = 25.83$.

Q3: (C) 15 — 10 employees in the 30–40 class plus 5 in the 40–50 class.

Q4: (D) 32.5% — Employees under 20 minutes: $5 + 8 = 13$. So $13/40 = 32.5\%$.

Q5: (A) 38.33 — $(10 \times 35 + 5 \times 45)/15 = 575/15 \approx 38.33$.

Q6: (C) 23.5 — The total midpoint sum falls by 2×45 and rises by 2×5 : $1020 - 90 + 10 = 940$. Divide by 40: 23.5.

PASSAGE 2 — NUMBERPATH CLUB (SUMS OF SQUARES)

Q7: (B) 1240 — $15 \times 16 \times 31 / 6 = 1240$.

Q8: (A) 14 — $S(13) = 910$ and $S(14) = 1015$, so the first value above 1000 is at $n = 14$.

Q9: (C) 10 — $S(10) = 385$ and $S(11) = 506$, so the largest n with $S(n) \leq 500$ is 10.

Q10: (D) 680 — $1 + 9 + 25 + 49 + 81 + 121 + 169 + 225 = 680$.

Q11: (B) 30 — Checked by direct evaluation of $S(n) = n(n+1)(2n+1)/6$ for $n = 1$ to 50; 30 values are divisible by 5.

Q12: (A) 855 — $121 + 144 + 169 + 196 + 225 = 855$, which also equals $1240 - 385$.

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