



Daily Quiz # 1



1. Number System

How many pair of natural numbers are there,
the differences of whose squares is 50?

- A. 1
- B. 2
- C. 3
- D. 4
- E. None of the above



Daily Quiz # 2



CAT 2016

What is the sum of all two-digit numbers that give a remainder of 3 when they are divided by 7?

- A. 666
- B. 676
- C. 683
- D. 777



Daily Quiz # 3



CAT 2015

When you reverse the digits of the number 13, the number Increases by 18. How many other two-digit numbers increase by 18 when their digits are reversed _____

- A. 7
- B. 8
- C. 6
- D None of the above



Daily Quiz # 4



CAT 2017 Set-2

If the product of three consecutive positive integers is 15600
then the sum of the squares of these integers is _____

- A. 1777
- B. 1785
- C. 1875
- D. 1877



Daily Quiz # 5

CAT 2001



In a number system, the product of 44 and 11 is 1034. The number 3111 of this system, when converted to the decimal number system, becomes _____

- A. 406
- B. 1086
- C. 213
- D. 691



Daily Quiz # 6



Find the number of factors of 1800?

- A. 36
- B. 12
- C. 18
- D. 24



Daily Quiz # 7



The number of prime factor in

$$2^{16}^{315} \times 25^{00}^{215} \times 3^{00}^{115} =$$

- A. 6 B. 7 C. 8 D. None



Daily Quiz # 8



The number of Even factor of 420 is _____

- A. 8
- B. 16
- C. 32
- D. 24



Daily Quiz # 9



What is the power of 2 in $25!$?

- A. 22
- B. 20
- C. 21
- D. 18



Daily Quiz # 10



What is the power of 6 in 100!?

- A. 97**
- B. 48**
- C. 54**
- D. 46**



Daily Quiz # 11



The number of 0's in 100!?

- A. 97
- B. 48
- C. 36
- D. 24



Daily Quiz # 12



The last digit of $7^{(77)} + 3^{(79)} + 2^{(81)}$?

- A. 6
- B. 7
- C. 1
- D. 0



Daily Quiz # 13



The last digit of $999^{(999!)} + 444^{(444)}$?

- A. 7
- B. 5
- C. 0
- D. 6



Daily Quiz # 14



The last two digits of $5565761^{(13124973)}$?

- A. 41
- B. 81
- C. 71
- D. 01



Daily Quiz # 15



The last two digits of $3^{(53)} + 9^{(23)} + 7^{(22)}$?

- A. 41
- B. 81
- C. 01
- D. 101



Daily Quiz # 16



The last two digits of
 $2^{(21)} + 4^{(21)} + 6^{(21)} + 8^{(21)}$?

- A. 120
- B. 12
- C. 20
- D. 02



Daily Quiz # 17



If x and y are the two digits of the number $653xy$ such that this number is divisible by 80, then $x! + y! = ?$

- A. 2
- B. 720
- C. 721
- D. 3



Daily Quiz # 18



CAT 2005

If $x = (16^3 + 17^3 + 18^3 + 19^3)$ then x divided by 70 leaves a remainder of

- A. 0
- B. 1
- C. 69
- D. 35



Daily Quiz # 19



Find the remainder:

$$(1!+2!+3!+\dots+2024!)/120$$

- A. 34
- B. 33
- C. 24
- D. 9



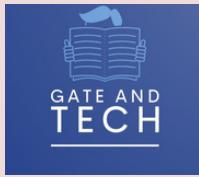
Daily Quiz # 20



Find the remainder:

$$[10^{(10)^1} + 10^{(10)^2} + 10^{(10)^3} + \dots + 10^{(10)^{30}}] / 7$$

- A. 1
- B. 6
- C. 2
- D. 3



Daily Quiz # 21



**What is the remainder when
7+77+777+7777+.....+(100 times) is
divided by 8?**

- A. 1
- B. 6
- C. 0
- D. -2



Daily Quiz # 22



If the number is successively divided by 7, 4, and 3 leaves the remainder of 5, 3, and 2 respectively. If the order of divisor is reversed then what will be the remainder?

- A. 1,3,6
- B. 2,4,3
- C. 0,2,6
- D. 1,3,5



Daily Quiz # 23



The value of :

$$\frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \dots + \frac{1}{99 \times 100} = ?$$

- A. $\frac{99}{100}$ B. $\frac{99}{99}$. C. $\frac{101}{100}$. D. $\frac{97}{100}$



Daily Quiz # 24



By adding 3, 5 in the numerator and denominator of a fraction it becomes $\frac{2}{3}$. If 1 and 3 are subtracted and added from numerator, and denominator respectively, it becomes $\frac{2}{5}$. Find the fraction?

- A. $\frac{5}{7}$
- B. $\frac{6}{7}$
- C. $\frac{7}{6}$
- D. $\frac{7}{5}$



Daily Quiz # 25



CAT 2005

The rightmost non-zero digit of the number 30^{2720} is _____

- A. 1
- B. 3
- C. 7
- D. 9



Daily Quiz # 26



2. Sequence - Series

The cost of borewell drilling cost per feet is ₹1000 for first feet and rises by ₹250 for each subsequent feet. Find the charge when good water found after digging borewell about 161 feet.

- A. ₹41,000 B. ₹51,000 C. ₹31,000 D. ₹61,000



Daily Quiz # 27



A theater has 32 rows of seats. If there are 26 seats in the 1st row, 30 in the 2nd, 34 in the 3rd, and so on, how many seats are there in all? Assume the pattern continues.

- A. 1628.
- B. 2816.
- C. 3218
- D. 2820



Daily Quiz # 28



Dan had an average (arithmetic mean) of 72 on his first four math tests. After taking the next test, his average (arithmetic mean) dropped to 70. Which of the following is his most recent test grade?

- A. 60.
- B. 64
- C. 62
- D. 56



Daily Quiz # 29



CAT 2020 SET-2

Let the m-th and n-th terms of a geometric progression be $\frac{3}{4}$ and 12, respectively, where $m < n$. If the common ratio of the progression is an integer r, then the smallest possible value of $r+n-m$ is

- A. -2
- B. 2
- C. 6
- D. -4



Daily Quiz # 30



A plant grows 1.67 cm in its first week. Each week it grows by 4% more than it did the week before. By how much does it grow in nine weeks, including the first week?

- A. 17.67 cm
- B. 18.33 cm
- C. 17.33 cm
- D. 16.67 cm





Daily Quiz # 31



CAT 2017 SET-I

Suppose, $\log_3 x = \log_{12} y = a$, where x, y are positive numbers. If G is the geometric mean of x and y , and $\log_6 G$ is equal to

- A. \sqrt{a}
- B. $2a$
- C. $a/2$
- D. a



Daily Quiz # 32



The value of $64^{\frac{1}{3}} \cdot 64^{\frac{1}{9}} \cdot 64^{\frac{1}{27}} \dots \infty$ is:

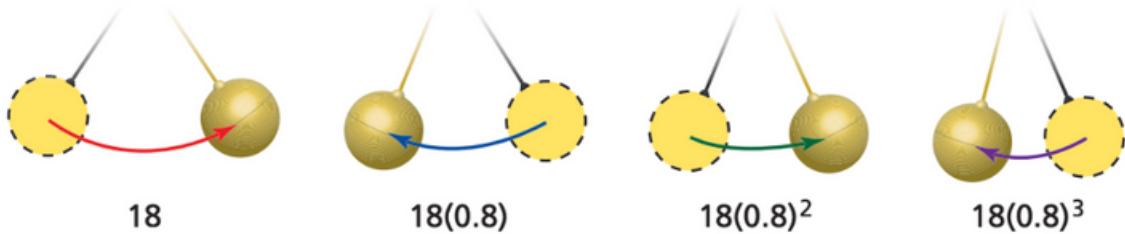
- A. 64
- B. 8
- C. 7
- D. 16



Daily Quiz # 33



A pendulum that is released to swing freely travels 18 inches on the first swing. On each successive swing, the pendulum travels 80% of the distance of the previous swing. What is the total distance the pendulum swings?



- A. 90 inches B. 80 inches C. 7.5 feet D. 6.66 feet**



Daily Quiz # 34



The sum of three consecutive terms in a harmonic progression is 37 , and the sum of their reciprocals is $\frac{1}{4}$.

Find the three numbers.

- A. 15, 22, 0
- B. 5, 10, 22
- C. 10, 12, 15
- D. 17, 5, 5



Daily Quiz # 35



Find the sum of the series $1 \cdot 2 + 2 \cdot 2^2 + 3 \cdot 2^3 + \dots + 100 \cdot 2^{100}$.

- A. $198 \cdot 2^{100} + 2$ B. $198 \cdot 2^{99} + 2$ C. $198 \cdot 2^{101} + 2$ D. $198 \cdot 2^{100}$



Daily Quiz # 36



CAT 2017 SET-2

If $a_1 = 1/(2*5)$, $a_2 = 1/(5*8)$, $a_3 = 1/(8*11)$, ..., then $a_1 + a_2 + \dots + a_{100}$ is

- A. 25/151
- B. 1/2
- C. 1/4
- D. 111/55



Daily Quiz # 37

3. LCM - HCF



Find the least number, which when divided by 12, 15, 20, and 54 leaves a remainder of 8 in each case.

- A. 548
- B. 540
- C. 532
- D. 524



Daily Quiz # 38



The traffic lights at three different intersections change after every 48 seconds, 72 seconds, and 108 seconds, respectively. If they change simultaneously at 9 a.m., then when is the next time that they change simultaneously?



- 9:05:12 a.m.
- 9:07:12 a.m.
- 10:15:10 a.m.
- 11:00:00 a.m.



Daily Quiz # 39



(Quiz Question 39) The product of two numbers is 1521 and the HCF of these numbers is 13. What is the number of such pairs?

- A. 2
- B. 3
- C. 1
- D. 0

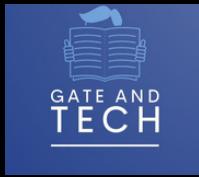


Daily Quiz # 40



(Quiz Question 40) If the highest common factor (HCF) of x and y is 15 , then the HCF of $36x^2 - 81y^2$ and $81x^2 - 9y^2$? is divisible by _____.

- A. 135
- B. 120
- C. 180
- D. 90



Daily Quiz # 41

4. Simplification



(Quiz Question 41)

$$\frac{0.74 \times 1.23 \times 0.13}{(0.37)^3 + (0.41)^3 - 8(0.39)^3} = ?$$

- A. $\frac{-1}{3}$
- B. 1
- C. -1
- D. $\frac{1}{3}$



Daily Quiz # 42



5. Surds & Indices

(Quiz Question 42) If $2^{x+y-2z} = 8^{8z-5-y}$, $5^{4y-6z} = 25^{y+z}$, $3^{4x-3z} = 9^{x+z}$ then the value of $2x + 3y + 5z$ is:

- A. 56
- B. 44
- C. 32
- D. 28



Daily Quiz # 43



(Quiz Question 43) If $\left[\left\{ \left(\frac{2}{3} \right)^3 \right\}^{(2x+3)} \right]^{\frac{-3}{4}} = \left[\left\{ \left(\frac{2}{3} \right)^{\frac{2}{3}} \right\}^{(3x+7)} \right]^{\frac{-6}{5}}$, then the value of $\sqrt{2 - 42x}$ is:

- A. 5
- B. 6
- C. 3
- D. 4



Daily Quiz # 44

6. Percentage



(Quiz Question 44: NIELIT 2022 Feb Scientist D)

If $60\% \text{ of } (x - y) = 30\% \text{ of } (x + 2y)$, then what percent of x is y ?

- A. 10%
- B. 15%
- C. 20%
- D. 25%



Daily Quiz # 45



(Quiz Question 45: CAT 2021 Set-2) A box has 450 balls, each either white or black, there being as many metallic white balls as metallic black balls. If 40% of the white balls and 50% of the black balls are metallic, then the number of non-metallic balls in the box is _____.

- A. 250
- B. 300
- C. 450
- D. 350



Daily Quiz # 46



(Quiz Question 46: CAT 2020 Set-1) In a group of people, 28% of the members are young while the rest are old. If 65% of the members are literates, and 25% of the literates are young, then the percentage of old people among the illiterates is nearest to _____.

- A. 62
- B. 55
- C. 66
- D. 59



Daily Quiz # 47



(Quiz Question 47: CAT 2020 Set-3) In the final examination, Bishnu scored 52% and Asha scored 64%. The marks obtained by Bishnu is 23 less, and that by Asha is 34 more than the marks obtained by Ramesh. The marks obtained by Geeta, who scored 84%, is _____.

- A. 439
- B. 399
- C. 357
- D. 417



Daily Quiz # 48



(Quiz Question 48: CAT 2021 Set-1) Identical chocolate pieces are sold in boxes of two sizes, small and large. The large box is sold for twice the price of the small box. If the selling price per gram of chocolate in the large box is 12% less than that in the small box, then the percentage by which the weight of chocolate in the large box exceeds that in the small box is nearest to ____.

- A. 135
- B. 127
- C. 144
- D. 124



Daily Quiz # 49



(Quiz Question 49) Due to the pandemic, the population of a city reduces at the rate of 2% per annum. What will be its total population after 2 years if the present population of the city is 45,000?

- A. 40538
- B. 44521
- C. 41568
- D. 43218



Daily Quiz # 50



(Quiz Question 50) In a two-candidate election, 10% of the voters did not cast their ballots. 10% of the votes cast were found invalid. The winning candidate received 54% of the valid votes and a 1620-vote majority. Find the number of people on the voter list who have registered to vote.

- A. 25000
- B. 26000
- C. 24500
- D. 25500



Daily Quiz # 51



(Quiz Question 51) The total number of males and females in a town is 70,000. If the number of males is increased by 6% and that of the females is increased by 4%, then the total number of males and females in the town would become 73520. What is the difference between the number of males and females in the town, in the beginning?

- A. 1500
- B. 1800
- C. 2000
- D. 1400



Daily Quiz # 52



(Quiz Question 52) The value of $\underbrace{2024\% + 2024\% + \dots + 2024\%}_{2024 \text{ times}}$ is _____.

(Mark all the appropriate choices)

- A. $(2024)^2 \%$
- B. $(2024\%)^2$
- C. $\frac{(2024)^2}{100}$
- D. $2024\% \times 2024$



Daily Quiz # 53



(Quiz Question 53: CAT 2021 Set-2) Raj invested ₹10000 in a fund. At the end of the first year, he incurred a loss but his balance was more than ₹5000. This balance, when invested for another year, grew and the percentage of growth in the second year was five times the percentage of loss in the first year. If the gain of Raj from the initial investment over the two periods is 35%, then the percentage of loss in the first year is _____.

- A. 15
- B. 10
- C. 70
- D. 5



Daily Quiz # 54



7. Profit & Loss

(Quiz Question 54) A shopkeeper sold two articles for ₹9471 each. On one, he gained 23% and on the other, he lost 23%. What is the overall percentage gain or loss?

- A. 5.29% Gain
- B. 5.29% Loss
- C. 6.29% Loss
- D. 6.29% Gain



Daily Quiz # 55



(Quiz Question 55: CAT 2021 Set-2) Anil, Bobby and Chintu jointly invest in a business and agree to share the overall profit in proportion to their investments. Anil's share of investment is 70%. His share of profit decreases by ₹ 420 if the overall profit goes down from 18% to 15%. Chintu's share of profit increases by ₹ 80 if the overall profit goes up from 15% to 17%. The amount, in INR, invested by Bobby is _____.

- A. 2400
- B. 2200
- C. 2000
- D. 1800



Daily Quiz # 56



(Quiz Question 56: CAT 2020 Set-2) Anil buys 12 toys and labels each with the same selling price. He sells 8 toys initially at 20% discount on the labeled price. Then he sells the remaining 4 toys at an additional 25% discount on the discounted price. Thus, he gets a total of Rs 2112, and makes a 10% profit. With no discounts, his percentage of profit would have been _____.

- A. 60
- B. 55
- C. 50
- D. 54



Daily Quiz # 57



(Quiz Question 57: CAT 2016) Instead of a meter scale, a cloth merchant uses a 120 cm scale while buying, but uses an 80 cm scale while selling the same cloth. If he offers a discount of 20% on cash payments, what is his overall profit percentage?

- A. 20%
- B. 25%
- C. 40%
- D. 15%



Daily Quiz # 58



(Quiz Question 58: CAT 2017 Set-2) The manufacturer of a table sells it to a wholesale dealer at a profit of 10%. The wholesale dealer sells the table to a retailer at a profit of 30%. Finally, the retailer sells it to a customer at a profit of 50%. If the customer pays Rs. 4290 for the table, then its manufacturing cost (in Rs) is _____.

- A. 1500
- B. 2000
- C. 2500
- D. 3000



Daily Quiz # 59

8. Discount



(Quiz Question 59) A shopkeeper marks his goods at a price such that after giving a discount of 25%, he gains $x\%$. If the cost price and the marked price of the article are Rs.460 and Rs.736 respectively. What is the value of x ?

- A. 20%
- B. 18%
- C. 24%
- D. 16%



Daily Quiz # 60



(Quiz Question 60) An article is sold for ₹680 after two successive discounts of 20% and $x\%$ on its marked price. The marked price of the article is ₹1000. What is the value of x ?

- A. 15
- B. 15.5
- C. 12.5
- D. 16



Daily Quiz # 61



9. Simple Interest

(Quiz Question 61) The simple interest on a certain sum at 15% per annum for three years is ₹7,200. The sum is:

- A. ₹16,000
- B. ₹24,000
- C. ₹32,000
- D. ₹48,000



Daily Quiz # 62



(Quiz Question 62) In how much time will the simple interest on a certain sum of money be $\frac{6}{5}$ times of the sum at 20% per annum?

- A. 8 years
- B. 7 years
- C. 6 years
- D. 5 years



Daily Quiz # 63

10. Compound Interest



(Quiz Question 63) What is the difference (in ₹) between the interests on ₹50,000 for one year at 8% per annum compounded half-yearly and yearly?

- A. 70
- B. 80
- C. 50
- D. 100



Daily Quiz # 64



(Quiz Question 64: CAT 2020 Set-3) A person invested a certain amount of money at 10% annual interest, compounded half-yearly. After one and a half years, the interest and principal together became Rs 18522. The amount, in rupees, that the person had invested is _____.

- A. ₹16000
- B. ₹18000
- C. ₹14000
- D. ₹20000



Daily Quiz # 65

11. Ratio & Proportion



(Quiz Question 65: CAT 2021 Set-1) A basket of 2 apples, 4 oranges and 6 mangoes costs the same as a basket of 1 apple, 4 oranges and 8 mangoes, or a basket of 8 oranges and 7 mangoes. Then the number of mangoes in a basket of mangoes that has the same cost as the other baskets is :

- A. 12
- B. 10
- C. 11
- D. 13



Daily Quiz # 66



(Quiz Question 66: CAT 2020 Set-2) A sum of money is split among Amal, Sunil and Mita so that the ratio of the shares of Amal and Sunil is 3 : 2, while the ratio of the shares of Sunil and Mita is 4 : 5. If the difference between the largest and the smallest of these three shares is Rs.400, then Sunil's share, in rupees, is _____.

- A. Rs. 900.
- B. Rs. 600.
- C. Rs. 500.
- D. Rs. 800.



Daily Quiz # 67



12. Mixture & Alligation

(Quiz Question 67: CAT 2021 Set-3) If a certain weight of an alloy of silver and copper is mixed with 3 kg of pure silver, the resulting alloy will have 90% silver by weight. If the same weight of the initial alloy is mixed with 2 kg of another alloy which has 90% silver by weight, the resulting alloy will have 84% silver by weight. Then, the weight of the initial alloy, in kg, is _____.

- A. 4
- B. 2.5
- C. 3
- D. 3.5



Daily Quiz # 68



(Quiz Question 68: CAT 2020 Set-1) An alloy is prepared by mixing three metals A, B and C in the proportion 3 : 4 : 7 by volume. Weights of the same volume of the metals A, B and C are in the ratio 5 : 2 : 6. In 130 kg of the alloy, the weight, in kg, of the metal C is _____.

- A. 70
- B. 96
- C. 48
- D. 84



Daily Quiz # 69

13. Partnership



(Quiz Question 69) Dhruva started a software business by investing Rs. 20,000. After six months, Gaurav joined him with a capital of Rs. 30,000. After 3 years, they earned a profit of Rs. 13,950. What was Dhruva's share in the profit?

- A. Rs. 6200
- B. Rs. 6400
- C. Rs. 4200
- D. Rs. 7750

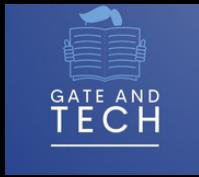


Daily Quiz # 70



(Quiz Question 70) A, B, C subscribe a sum of ₹75,500 for a business. A subscribes ₹3,500 more than B. and B subscribes ₹4,500 more than C, out of a total profit of ₹45,300, how much (in ₹) does A receive?

- A. 14,700
- B. 15,000
- C. 17,400
- D. 12,600



Daily Quiz # 71

14. Average



(Quiz Question 71: CAT 2021 Set-1) Suppose hospital A admitted 21 less Covid infected patients than hospital B, and all eventually recovered. The sum of recovery days for patients in hospitals A and B were 200 and 152, respectively. If the average recovery days for patients admitted in hospital A was 3 more than the average in hospital B then the number admitted in hospital A was _____.

- A. 25
- B. 35
- C. 23
- D. 33



Daily Quiz # 72



(Quiz Question 72: CAT 2020 Set-1) The mean of all 4-digit even natural numbers of the form ' $aabb$ ', where $a > 0$, is _____.

- A. 5050
- B. 4466
- C. 5544
- D. 4864



Daily Quiz # 73



15. Time & Work

(Quiz Question 73: CAT 2021 Set-1) Amar, Akbar and Anthony are working on a project. Working together Amar and Akbar can complete the project in 1 year, Akbar and Anthony can complete in 16 months, Anthony and Amar can complete in 2 years. If the person who is neither the faster nor the slowest works alone, the time in months he will take to complete the project is _____.

- A. 32
- B. 42
- C. 28
- D. 31



Daily Quiz # 74



(Quiz Question 74: CAT 2021 Set-3) One day, Rahul started a work at 9 AM and Gautam joined him two hours later. They then worked together and completed the work at 5 PM the same day. If both had started at 9 AM and worked together, the work would have been completed 30 minutes earlier. Working alone, the time Rahul would have taken, in hours, to complete the work is _____.

- A. 10
- B. 12
- C. 12.5
- D. 11.5

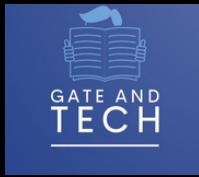


Daily Quiz # 75



(Quiz Question 75: CAT 2020 Set-3) A contractor agreed to construct a 6 km road in 200 days. He employed 140 persons for the work. After 60 days, he realized that only 1.5 km road has been completed. How many additional people would he need to employ in order to finish the work exactly on time ?

- A. 20
- B. 30
- C. 50
- D. 40



Daily Quiz # 76



(Quiz Question 76: CAT 2018 Set-1) When they work alone, B needs 25% more time to finish a job than A does. They two finish the job in 13 days in the following manner: A works alone till half the job is done, then A and B work together for four days, and finally B works alone to complete the remaining 5% of the job. In how many days can B alone finish the entire job?

- A. 20
- B. 16
- C. 22
- D. 18

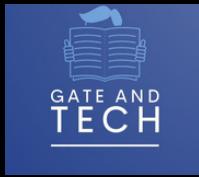


Daily Quiz # 77



(Quiz Question 77: CAT 2019 Set-1) At their usual efficiency levels, A and B together finish a task in 12 days. If A had worked half as efficiency as she usually does, and B had worked thrice as efficiency as he usually does, the task would have been completed in 9 days. How many days would A take to finish the task if she works alone at her usual efficiency?

- A. 24
- B. 18
- C. 12
- D. 36



Daily Quiz # 78



16. Pipe & Cistern

(Quiz Question 78: CAT 2021 Set-2) Two pipes A and B are attached to an empty water tank. Pipe A fills the tank while pipe B drains it. If pipe A is opened at 2 pm and pipe B is opened at 3 pm, then the tank becomes full at 10 pm. Instead, if pipe A is opened at 2 pm and pipe B is opened at 4 pm, then the tank becomes full at 6 pm. If pipe B is not opened at all, then the time, in minutes, taken to fill the tank is _____.

- A. 140
- B. 264
- C. 144
- D. 120



Daily Quiz # 79



(Quiz Question 79: CAT 2018 Set-2) A water tank has inlets of two types A and B. All inlets of type A when open, bring in water at the same rate. All inlets of type B, when open, bring in water at the same rate. The empty tank is completely filled in 30 minutes if 10 inlets of type A and 45 inlets of type B are open, and in 1 hour if 8 inlets of type A and 18 inlets of type B are open. In how many minutes will the empty tank get completely filled if 7 inlets of type A and 27 inlets of type B are open?

- A. 36
- B. 42
- C. 54
- D. 48



Daily Quiz # 80



17. Time, Speed & Distance

(Quiz Question 80) A man reaches his office 30 min late, if he walks from his home at 3 km per hour and reaches 40 min early if he walks at 4 km per hour. How far is his office from his house?

- A. 7 km
- B. 14 km
- C. 5 km
- D. 3 km

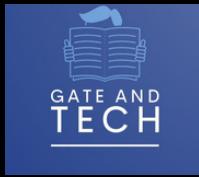


Daily Quiz # 81



(Quiz Question 81) Ram and Shyam travel the same distance at the speeds of 10 kmph and 15 kmph respectively. If Ram takes 30 min longer than Shyam, then the distance travelled is _____.

- A. 15 km
- B. 2 km
- C. 10 km
- D. 30 km



Daily Quiz # 82



(Quiz Question 82) Amita travels from her house at $3\frac{1}{2}$ km/h and reaches her school 6 minutes late. The next day she travels at $4\frac{1}{2}$ km/h and reaches her school 10 minutes early. What is the distance between her house and the school?

- A. 5.4 km
- B. 5.6 km
- C. 4.8 km
- D. 4.2 km

Solve >



Daily Quiz # 83



(Quiz Question 83) A delivery boy started from his office at 10 a.m. to deliver an article. He rode his scooter at a speed of 32 km/h. He delivered the article and waited for 15 minutes to get the payment. After the payment was made, he reached his office at 11.25 a.m., travelling at a speed of 24 km/h. What is the total distance travelled by the boy?

- A. 32 km
- B. 35 km
- C. 40 km
- D. 30 km



Daily Quiz # 84



(Quiz Question 84) The driver of a car, which is travelling at a speed of 75 km/h, locates a bus 80 m ahead of him, travelling in the same direction. After 15 seconds, he finds that the bus is 40 m behind the car. What is the speed of the bus (in km/h)?

- A. 44.2
- B. 42.5
- C. 47.5
- D. 46.2



Daily Quiz # 85



(Quiz Question 85: CAT 2020 Set-1) A straight road connects points A and B. Car 1 travels from A to B and Car 2 travels from B to A, both leaving at the same time. After meeting each other, they take 45 minutes and 20 minutes, respectively, to complete their journeys. If Car 1 travels at the speed of 60 km/hr, then the speed of Car 2, in km/hr, is

-----.

- A. 90
- B. 100
- C. 80
- D. 70



Daily Quiz # 86



(Quiz Question 86: CAT 2021 Set-2) Two trains A and B were moving in opposite directions, their speeds being in the ratio 5 : 3. The front end of A crossed the rear end of B 46 seconds after the front ends of the trains had crossed each other. It took another 69 seconds for the rear ends of the trains to cross each other. The ratio of length of train A to that of train B is _____.

- A. 2 : 3
- B. 2 : 1
- C. 3 : 2
- D. 5 : 3



Daily Quiz # 87



(Quiz Question 87: CAT 2020 Set-3) A and B are two railway stations 90 km apart. A train leaves A at 9 : 00 am, heading towards B at a speed of 40 km/hr. Another train leaves B at 10 : 30 am, heading towards A at a speed of 20 km/hr. The trains meet each other at

- A. 11 : 45 am
- B. 10 : 45 am
- C. 11 : 20 am
- D. 11 : 00 am



Daily Quiz # 88



(Quiz Question 88: CAT 2021 Set-3) Mira and Amal walk along a circular track, starting from the same point at the same time. If they walk in the same direction, then in 45 minutes, Amal completes exactly 3 more rounds than Mira. If they walk in opposite directions, then they meet for the first time exactly after 3 minutes. The number of rounds Mira walks in one hour is _____.

- A. 6
- B. 7
- C. 5
- D. 8



Daily Quiz # 89



18. Boat & Stream

(Quiz Question 89: CAT 2017 Set-1) A man travels by a motor boat down a river to his office and back. With the speed of the river unchanged, if he doubles the speed of his motor boat, then his total travel time gets reduced by 75%. The ratio of the original speed of the motor boat to the speed of the river is _____.

- A. $\sqrt{6} : \sqrt{2}$
- B. $\sqrt{7} : 2$
- C. $2\sqrt{5} : 3$
- D. $3 : 2$



Daily Quiz # 90



(Quiz Question 90) The speed of a boat in still water is 6 km/hr. It takes four times as much time as going upstream as in going the same distance downstream the speed of the stream is _____.

- A. 2.5 km/hr
- B. 3.6 km/hr
- C. 5 km/hr
- D. 4.2 km/hr



Daily Quiz # 91



19. Algebra

(Quiz Question 91: CAT 2020 Set-2)

If x and y are positive real numbers satisfying $x+y = 102$, then the minimum possible value of $2601\left(1 + \frac{1}{x}\right)\left(1 + \frac{1}{y}\right)$ is _____.

- A. 2601
- B. 2706
- C. 2701
- D. 2704



Daily Quiz # 92



(Quiz Question 92: CAT 2020 Set-2) For real x , the maximum possible value of $\frac{x}{\sqrt{1+x^4}}$ is -----.

- A. $\frac{1}{\sqrt{3}}$
- B. 1
- C. $\frac{1}{\sqrt{2}}$
- D. $\frac{1}{2}$



Daily Quiz # 93



20. Trigonometry

(Quiz Question 93) If $\cos(\alpha + \beta) = \frac{3}{5}$, $\sin(\alpha - \beta) = \frac{5}{13}$ and $0 < \alpha, \beta < \frac{\pi}{4}$, then $\tan(2\alpha)$ is equal to

- A. $\frac{63}{52}$
- B. $\frac{63}{16}$
- C. $\frac{21}{16}$
- D. $\frac{33}{52}$



Daily Quiz # 94



(Quiz Question 94) If $\frac{\sin^4 x}{2} + \frac{\cos^4 x}{3} = \frac{1}{5}$, then (Mark all the appropriate choices)

- A. $\tan^2 x = \frac{2}{3}$
- B. $\frac{\sin^8 x}{8} + \frac{\cos^8 x}{27} = \frac{1}{125}$
- C. $\tan^2 x = \frac{1}{3}$
- D. $\frac{\sin^8 x}{8} + \frac{\cos^8 x}{27} = \frac{2}{125}$



Daily Quiz # 95



(Quiz Question 95) Let α and β be the roots of the quadratic equation $x^2 \sin \theta - x(\sin \theta \cos \theta + 1) + \cos \theta = 0$ ($0 < \theta < 45^\circ$) and $\alpha < \beta$. Then,

$\sum_{n=0}^{\infty} \left(\alpha^n + \frac{(-1)^n}{\beta^n} \right)$ is equal to

- A. $\frac{1}{1-\cos\theta} - \frac{1}{1+\sin\theta}$
- B. $\frac{1}{1-\cos\theta} + \frac{1}{1+\sin\theta}$
- C. $\frac{1}{1+\cos\theta} - \frac{1}{1-\sin\theta}$
- D. $\frac{1}{1+\cos\theta} + \frac{1}{1-\sin\theta}$



Daily Quiz # 96



(Quiz Question 96) If x, y and z are in AP and $\tan^{-1} x, \tan^{-1} y$ and $\tan^{-1} z$ are also in AP, then

- A. $x = y = z$
- B. $2x = 3y = 6z$
- C. $6x = 3y = 2z$
- D. $6x = 4y = 3z$



Daily Quiz # 97



21. Height & Distance

(Quiz Question 97) The angle of elevation of the top of a vertical tower standing on a horizontal plane is observed to be 45° from a point A on the plane. Let B be the point 30 m vertically above the point A . If the angle of elevation of the top of the tower from B be 30° , then the distance (in m) of the foot of the tower from the point A is _____.

- A. $15(3 + \sqrt{3})$
- B. $15(5 - \sqrt{3})$
- C. $15(3 - \sqrt{3})$
- D. $15(1 + \sqrt{3})$



Daily Quiz # 98



(Quiz Question 98) From the top of a tower 75 m high, the angles of depression of the top and bottom of a pole standing on the same plane as the tower are observed to be 30° and 45° respectively. The height of the pole is _____.

- A. 30.4 m
- B. 35.9 m
- C. 28.6 m
- D. 31.7 m



Daily Quiz # 99

22. Geometry



(Quiz Question 99: CAT 2016) From a circular sheet of paper with a radius 20 cm, four circles of radius 5 cm each are cut out. What is the ratio of the uncut to the cut portion?

- A. 1 : 3
- B. 4 : 1
- C. 3 : 1
- D. 4 : 3



Daily Quiz # 100



(Quiz Question 100: CAT 2021 Set-3) Let ABCD be a parallelogram. The lengths of the side AD and the diagonal AC are 10 cm and 20 cm, respectively. If the angle $\angle ADC$ is equal to 30° then the area of the parallelogram, in sq. cm, is _____.

- A. $\frac{25(\sqrt{5}+\sqrt{15})}{2}$
- B. $25(\sqrt{5} + \sqrt{15})$
- C. $\frac{25(\sqrt{3}+\sqrt{15})}{2}$
- D. $25(\sqrt{3} + \sqrt{15})$



Daily Quiz # 101



(Quiz Question 101: CAT 2021 Set-3) A park is shaped like a rhombus and has area 96 sq m. If 40 m of fencing is needed to enclose the park, the cost, in INR, of laying electric wires along its two diagonals, at the rate of ₹ 125 per m, is _____ (Numerical Answer Type)



Daily Quiz # 102



(Quiz Question 102: CAT 2021 Set-2) The sides AB and CD of a trapezium ABCD are parallel, with AB being the smaller side. P is the mid-point of CD and ABPD is a parallelogram. If the difference between the areas of the parallelogram ABPD and the triangle BPC is 10 sq cm, then the area, in sq cm, of the trapezium ABCD is _____.

- A. 25
- B. 30
- C. 40
- D. 20



Daily Quiz # 103



(Quiz Question 103: CAT 2021 Set-1) If the area of a regular hexagon is equal to the area of an equilateral triangle of side 12 cm, then the length, in cm, of each side of the hexagon is _____.

- A. $6\sqrt{6}$
- B. $2\sqrt{6}$
- C. $4\sqrt{6}$
- D. $\sqrt{6}$



Daily Quiz # 104



(Quiz Question 104: CAT 2021 Set-1) A circle of diameter 8 inches is inscribed in a triangle ABC where $\angle ABC = 90^\circ$. If BC = 10 inches then the area of the triangle in square inches is _____. (Numerical Answer Type)



Daily Quiz # 105



(Quiz Question 105: CAT 2020 Set-2) Let C₁ and C₂ be concentric circles such that the diameter of C₁ is 2 cm longer than that of C₂. If a chord of C₁ has length 6 cm and is a tangent to C₂, then the diameter, in cm, of C₁ is _____. (Numerical Answer Type)



Daily Quiz # 106



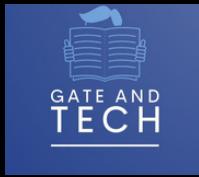
(Quiz Question 106: CAT 2020 Set-2) From an interior point of an equilateral triangle, perpendiculars are drawn on all three sides. The sum of the lengths of the three perpendiculars is s . Then the area of the triangle is ____.

A. $\frac{\sqrt{3}s^2}{2}$

B. $\frac{s^2}{\sqrt{3}}$

C. $\frac{2s^2}{\sqrt{3}}$

D. $\frac{s^2}{2\sqrt{3}}$

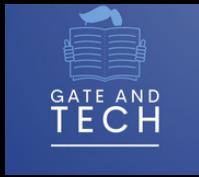


Daily Quiz # 107



(Quiz Question 107: NIELIT 2017 DEC Scientist B) If 10, 12 and 'x' are sides of an acute angled triangle, how many integer values of 'x' are possible?

- A. 7
- B. 12
- C. 9
- D. 13



Daily Quiz # 108



(Quiz Question 108: CAT 2017 Set-1) Let AB, CD, EF, GH, and JK be five diameters of a circle with center at O. In how many ways can three points be chosen out of A, B, C, D, E, F, G, H, J, K, and O so as to form a triangle?

- A. 160
- B. 159
- C. 169
- D. 150



Daily Quiz # 109



23. Co-ordinate Geometry

(Quiz Question 109: CAT 2017 Set-2) The points $(2, 5)$ and $(6, 3)$ are two end points of a diagonal of a rectangle. If the other diagonal has the equation $y = 3x + c$, then c is _____.

- A. -5
- B. -6
- C. -7
- D. -8



Daily Quiz # 110



(Quiz Question 110: CAT 2019 Set-1) Let T be the triangle formed by the straight line $3x + 5y - 45 = 0$ and T the coordinate axes. Let the circumcircle of T have a radius of length L , measured in the same unit as the coordinate axes. Then, the integer closest to L is _____. (Numerical Answer Type)



Daily Quiz # 111



(Quiz Question 111: XAT 2023) ABC is a triangle and the coordinates of A, B and C are $(a, b - 2c), (a, b + 4c)$ and $(-2a, 3c)$ respectively where a, b and c are positive numbers. The area of the triangle ABC is:

- A. $6abc$
- B. $9abc$
- C. $6bc$
- D. $9ac$



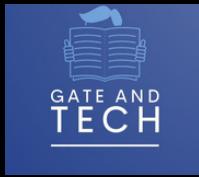
Daily Quiz # 112

24. Mensuration



(Quiz Question 112) If the radius of the base of a cone is doubled, and the volume of the new cone is three times the volume of the original cone, then what will be the ratio of the height of the original cone to that of the new cone?

- A. 1 : 3
- B. 9 : 4
- C. 2 : 9
- D. 4 : 3



Daily Quiz # 113



(Quiz Question 113) The ratio of the volume of two cylinders is $x : y$ and the ratio of their diameters is $a : b$. What is the ratio of their heights?

- A. $xa^2 : yb^2$
- B. $xa : yb$
- C. $xb : ya$
- D. $xb^2 : ya^2$



Daily Quiz # 114



(Quiz Question 114) Three solid metallic spheres whose radii are 1 cm, x cm and 8 cm are melted and recast into a single solid sphere of diameter 18 cm. The surface area (in cm^2) of the sphere with radius x cm is:

- A. 100π
- B. 64π
- C. 144π
- D. 72π

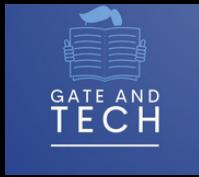


Daily Quiz # 115



(Quiz Question 115) N solid metallic spherical balls are melted and recast into a cylindrical rod whose radius is 3 times that of a spherical ball and height is 4 times the radius of a spherical ball. The value of N is:

- A. 30
- B. 27
- C. 24
- D. 36



Daily Quiz # 116



(Quiz Question 116) A solid metallic sphere of radius 8 m is melted and drawn into a wire of uniform cross-section. If the length of the wire is 24 m, then its radius (in mm) is:

- A. 6
- B. 5
- C. $5\frac{1}{3}$
- D. $6\frac{2}{3}$



Daily Quiz # 117



(Quiz Question 117) The base of a right pyramid is an equilateral triangle with side 8 cm, and the height of the pyramid is $24\sqrt{3}$ cm. The volume (in cm^3) of the pyramid is:

- A. 1152
- B. 480
- C. 576
- D. 384



Daily Quiz # 118



(Quiz Question 118) The volume of a solid cylinder is 2002 cm^3 and its height is 13 cm. What is the area (in cm^2) of its base? (Take $\pi = 22/7$)

- A. 154
- B. 77
- C. 308
- D. 231

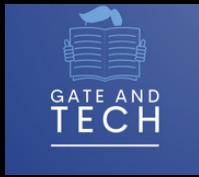


Daily Quiz # 119



(Quiz Question 119: CAT 2020 Set-1) A solid right circular cone of height 27 cm is cut into two pieces along a plane parallel to its base at a height of 18 cm from the base. If the difference in volume of the two pieces is 225 cc, the volume, in cc, of the original cone is _____.

- A. 232
- B. 256
- C. 264
- D. 243



Daily Quiz # 120



(Quiz Question 120) The length, breadth, and height of a room are in the ratio $3 : 2 : 1$. If the breadth and height are halved while the length is doubled, then the total area of the four walls of the room will

- A. remain the same.
- B. decrease by 13.64%
- C. decrease by 18.75%
- D. decrease by 30%



Daily Quiz # 121



(Quiz Question 121: CAT 2017 Set-1) A ball of diameter 4 cm is kept on top of a hollow cylinder standing vertically. The height of the cylinder is 3 cm, while its volume is $9\pi \text{ cm}^3$. Then the vertical distance, in cm, of the topmost point of the ball from the base of the cylinder is _____.

- A. 5
- B. 4
- C. 3
- D. 6



Daily Quiz # 122



(Quiz Question 122: CAT 2019 Set-2) The base of a regular pyramid is a square and each of the other four sides is an equilateral triangle, the length of each side being 20 cm. The vertical height of the pyramid, in cm, is _____.

- A. $8\sqrt{3}$
- B. 12
- C. $5\sqrt{5}$
- D. $10\sqrt{2}$



Daily Quiz # 123



25. Permutation & Combination

(Quiz Question 123: CAT 2016) A man has 9 friends: 4 boys and 5 girls. In how many ways can he invite them, if there have to be exactly 3 girls in the invitees? (Numerical Answer Type)



Daily Quiz # 124



(Quiz Question 124: CAT 2021 Set-2) The number of ways of distributing 15 identical balloons, 6 identical pencils and 3 identical erasers among 3 children, such that each child gets at least four balloons and one pencil, is _____. (Numerical Answer Type)



Daily Quiz # 125



(Quiz Question 125: CAT 2017 Set-2) In how many ways can 8 identical pens be distributed among Amal, Bimal, Kamal so that Amal gets at least 1 pen, Bimal gets at least 2 pens, and Kamal gets at least 3 pens?

- A. 5
- B. 6
- C. 7
- D. 8



Daily Quiz # 126



(Quiz Question 126: CAT 2021 Set-1) The number of groups of three or more distinct numbers that can be chosen from 1, 2, 3, 4, 5, 6, 7, and 8 so that the groups always include 3 and 5, while 7 and 8 are never included together is _____. (Numerical Answer Type)



Daily Quiz # 127



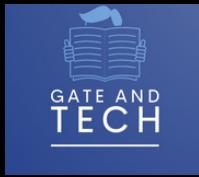
(Quiz Question 127: CAT 2021 Set-3) A four-digit number is formed by using only the digits 1, 2 and 3 such that both 2 and 3 appear at least once. The number of all such four-digit numbers is _____. (Numerical Answer Type)



Daily Quiz # 128



(Quiz Question 128: CAT 2020 Set-1) How many 3-digit numbers are there, for which the product of their digits is more than 2 but less than 7? (Numerical Answer Type)



Daily Quiz # 129



26. Probability

(Quiz Question 129: CAT 2014) A box contains 6 red balls, 7 green balls and 5 blue balls. Each ball is of a different size. The probability that the red ball selected is the smallest red ball, is _____.

- A. 1/18
- B. 1/3
- C. 1/6
- D. 2/3



Daily Quiz # 130



(Quiz Question 130) Ten tickets numbered 1, 2, 3, ..., 10. Six tickets are selected at random one at a time with replacement. The probability of the largest number appearing on the selected ticket being 7 is _____.

- A. $(7^6 + 1)/10^6$
- B. $(7^6 - 6^6)/10^6$
- C. $(7^6 + 6^6)/10^6$
- D. $6^6/10^6$

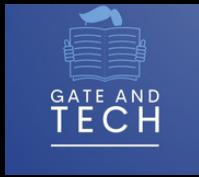


Daily Quiz # 131



(Quiz Question 131: CAT 2009) A and B throw with one dice for a stake of Rs. 11 which is to be won by the player who first throw 6. If A has the first throw, what are their respective expectations?

- A. Rs. 7, Rs. 4
- B. Rs. 6, Rs. 5
- C. Rs. 4, Rs. 7
- D. Rs. 5, Rs. 6



Daily Quiz # 132



(Quiz Question 132: NIELIT 2019 Feb Scientist D) A bag contains 12 balls of the two different colours out of which x are white. One ball is drawn at random. If 6 more white balls are put in a bag, the probability of drawing a white ball now will be doubled to that of previous probability of drawing a white ball. The value of x is :

- A. 4
- B. 5
- C. 6
- D. 3

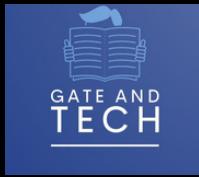


Daily Quiz # 133



(Quiz Question 133: NIELIT 2016 DEC Scientist B) Two dice are thrown simultaneously. The probability of obtaining a total score of 5 is _____.

- A. 1/18
- B. 1/12
- C. 1/9
- D. None of these



Daily Quiz # 134



27. Statistics

(Quiz Question 134) Following marks are obtained by the students in a test:

81, 72, 90, 90, 86, 85, 92, 70, 71, 83, 89, 95, 85, 79, 62

The range of the marks is _____.

- A. 9
- B. 17
- C. 27
- D. 33



Daily Quiz # 135



(Quiz Question 135: GATE IN 2023) Which one among the following statements must be TRUE about the mean and the median of the scores of all candidates appearing for GATE 2023?

- A. The median is at least as large as the mean.
- B. The mean is at least as large as the median.
- C. At most half the candidates have a score that is larger than the median
- D. At most half the candidates have a score that is larger than the mean.

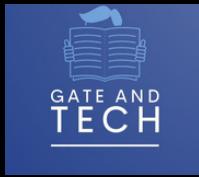


Daily Quiz # 136



(Quiz Question 136: GATE2017 ME-1) In a company with 100 employees, 45 earn Rs. 20,000 per month, 25 earn Rs. 30000, 20 earn Rs. 40000, 8 earn Rs. 60000, and 2 earn Rs. 150,000. The median of the salaries is _____.

- A. Rs. 20,000
- B. Rs. 30,000
- C. Rs. 32,300
- D. Rs. 40,000



Daily Quiz # 137



28. Data Interpretation

(Quiz Question 137: UGC NET CSE October 2020) The following table shows the total number of students in the Department of the Institute along with the percentage of Females and Male students. Answer the question based on the data given below:

Department	Total No. of Students	Percentage of Female	Percentage of Male
Computer	840	45	55
Civil	220	35	65
Mech.	900	23	77
Electrical	360	65	35
Electronics	450	44	56
Mining	540	40	60

What is the respective ratio of the number of females in the Mechanical Department to the number of females in the Electronics Department?

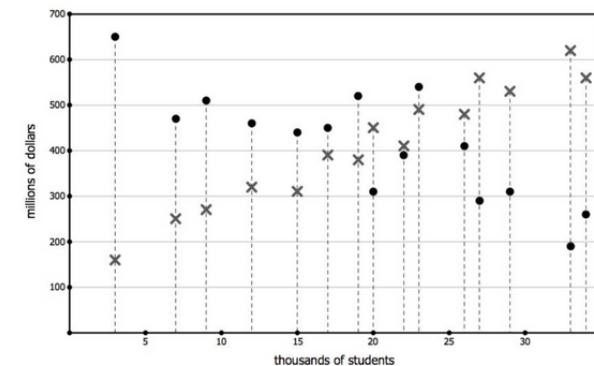
- A. 4 : 3
- B. 23 : 22
- C. 24 : 21
- D. 23 : 21



Daily Quiz # 138



(Quiz Question 138)



In the diagram above, each of the fifteen private colleges is represented by a dot and an X on a vertical line. The X indicates the college's annual income from tuition in 2008. The dot, above or below on the same dashed vertical line, indicates the college's annual income in 2008 from investments such as endowments. The base of the vertical dashed line indicates the number of students at that college in 2008.

For how many colleges shown is the investment income in 2008 more than double the same college's tuition income in 2008?

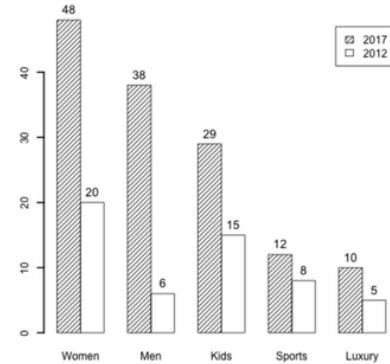
- A. None B. One C. Two D. Four



Daily Quiz # 139



(Quiz Question 139: CMI-2020-DataScience) A multi-national conglomerate sells soap products for five different market segments, namely (i) Women, (ii) Men, (iii) Kids, (iv) Sports, and (v) Luxury. The sales of these five segments (in lakh number of packs) during 2012 and 2017 are shown in the following figure.



During the period 2012-2017, which segment experienced the minimum rate of increase in sales?

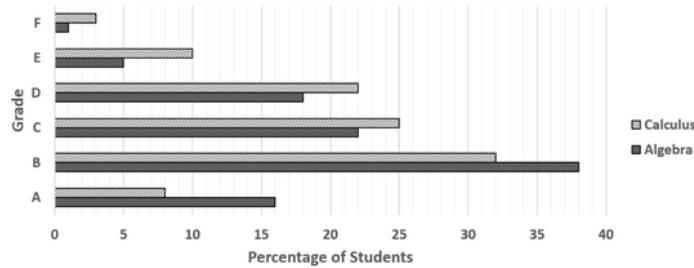
- A. Luxury B. Men's C. Sports D. Women's



Daily Quiz # 140



(Quiz Question 140: CMI-2020-DataScience) Consider the following bar chart:



Which of the following is true?

- A. The number of students who scored A in Algebra is higher than the number of students who scored A in Calculus.
- B. The percentage of students who scored A or B in algebra is lower than the percentage of students who scored A or B in calculus.
- C. Calculus is easier than algebra.
- D. Considering this data, the average percentage of students scoring A is 12%.

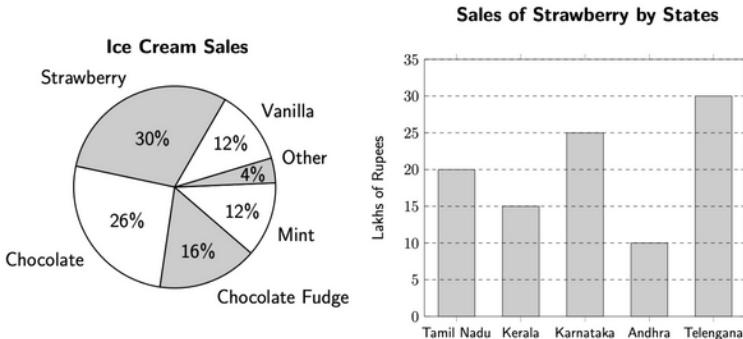


Daily Quiz # 141



(Quiz Question 141: CMI-2018-DataScience) Description for the following question:

An Ice-cream company mainly operates in the five southern states of India. The pie chart shows the breakdown of revenues (in percentages) for the ice cream company over the last summer. The bar chart shows the detail of breakdown for strawberry flavor by states in lakhs of rupees.



If you assume that the chocolate flavour and the strawberry flavour are sold in the same proportion across the five states, then what are the sales of chocolate in Tamil Nadu, in lakhs of rupees? (Upto three Decimal places) (Numerical Answer Type)

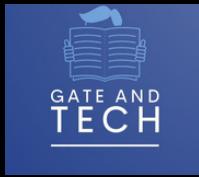


Daily Quiz # 142



29. Absolute Value

(Quiz Question 142: CAT 2019 Set-1) Let S be the set of all points (x, y) in the $x - y$ plane such that $|x| + |y| \leq 2$ and $|x| \geq 1$. Then, the area, in square units, of the region represented by S equals _____. (Numerical Answer Type)



Daily Quiz # 143



- (Quiz Question 143: CAT 2020 Set-1)** The area of the region satisfying the inequilities $|x| - y \leq 1$, $y \geq 0$ and $y \leq 1$ is _____.
- A. 1
 - B. 2
 - C. 3
 - D. 4



Daily Quiz # 144



30. Logarithms

(Quiz Question 144: CAT 2021 Set-2) If $\log_2[3 + \log_3\{4 + \log_4(x-1)\}] - 2 = 0$ then $4x$ equals _____.

- A. 3
- B. 5
- C. 6
- D. 7



Daily Quiz # 145



(Quiz Question 145: CAT 2020 Set-2) The value of $\log_a\left(\frac{a}{b}\right) + \log_b\left(\frac{b}{a}\right)$, for $1 < a \leq b$ cannot be equal to _____.

- A. -0.5
- B. 1
- C. 0
- D. -1



Daily Quiz # 146



(Quiz Question 146: CAT 2015) If $\log_y x = (a \cdot \log_z y) = (b \cdot \log_x z) = ab$, then which of the following pairs of values for (a, b) is not possible?

- A. $(-2, 1/2)$
- B. $(1, 1)$
- C. $(\pi, 1/\pi)$
- D. $(2, 2)$



Daily Quiz # 147



(Quiz Question 147: CAT 2003) What is the sum of ' n ' terms in the series: $\log m + \log \frac{m^2}{n} + \log \frac{m^3}{n^2} + \log \frac{m^4}{n^3} + \dots + \log \frac{m^n}{n^{n-1}}$?

A. $\log \left[\frac{n^{n-1}}{m^{(n+1)}} \right]^{\frac{n}{2}}$

B. $\log \left[\frac{m^m}{n^n} \right]^{\frac{n}{2}}$

C. $\log \left[\frac{m^{(1-n)}}{n^{(1-m)}} \right]^{\frac{n}{2}}$

D. $\log \left[\frac{m^{(n+1)}}{n^{(n-1)}} \right]^{\frac{n}{2}}$



Daily Quiz # 148



31. Quadratic Equations

(Quiz Question 148: CAT 2012) If the roots of the equation $(a^2 + b^2)x^2 + 2(b^2 + c^2)x + (b^2 + c^2) = 0$ are real, which of the following must hold true?

- A. $c^2 \geq a^2$
- B. $c^4 \geq a^2(b^2 + c^2)$
- C. $b^2 \geq a^2$
- D. $a^4 \leq b^2(a^2 + c^2)$



Daily Quiz # 149



(Quiz Question 149: CAT 1994) If one root of $x^2 + px + 12 = 0$ is 4, while the equation $x^2 + px + q = 0$ has equal roots, then the value of q is:

- A. $\frac{49}{4}$
- B. $\frac{4}{49}$
- C. 4
- D. $\frac{1}{4}$



Daily Quiz # 150



(Quiz Question 150: ISI2014-DCG) The conditions on a , b and c under which the roots of the quadratic equation $ax^2 + bx + c = 0$, $a \neq 0$, $b \neq 0$ and $c \neq 0$, are unequal magnitude but of the opposite signs, are the following:

- A. a and c have the same sign while b has the opposite sign.
- B. b and c have the same sign while a has the opposite sign; or a and b have the same sign while c has the opposite sign.
- C. a and c have the same sign.
- D. a , b and c have the same sign.

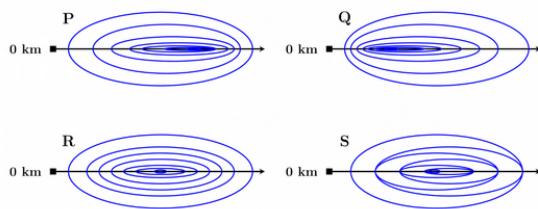
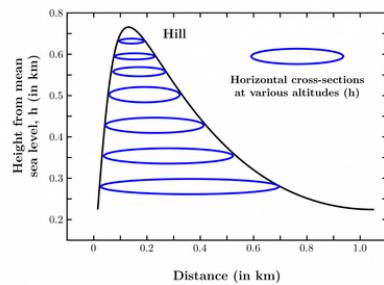


Daily Quiz # 151

32. Graphical Data



(Quiz Question 151: GATE IN 2023) In the given diagram, ovals are marked at different heights (h) of a hill. Which one of the following options P, Q, R, and S depicts the top view of the hill?

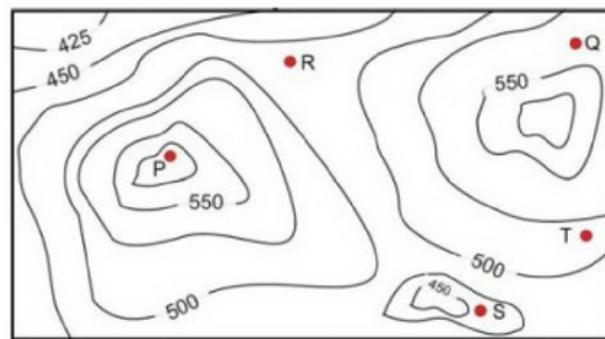


- A. P B. Q C. R D. S

Daily Quiz # 152



(Quiz Question 152: GATE CSE 2017 Set 1) A contour line joins locations having the same height above the mean sea level. The following is a contour plot of a geographical region. Contour lines are shown at 25 m intervals in this plot. If in a flood, the water level rises to 525 m, which of the villages P, Q, R, S, T get submerged?



- A. P, Q
- B. P, Q, T
- C. R, S, T
- D. Q, R, S



Daily Quiz # 153



33. Venn Diagram

(Quiz Question 153: CAT 2016) In a locality, two-thirds of the people have cable TV, one-fifth have VCR, and one-tenth have both. What is the fraction of people having either cable -TV or VCR?

- A. 19/30
- B. 2/3
- C. 17/30
- D. 23/30



Daily Quiz # 154



(Quiz Question 154: CAT 2018 Set-1) Each of 74 students in a class studies at least one of the three subjects H, E and P. Ten students study all three subjects, while twenty study H and E, but not P. Every student who studies P also studies H or E or both. If the number of students studying H equals that studying E, then the number of students studying H is _____. (Numerical Answer Type)



Daily Quiz # 155



(Quiz Question 155) There are 150 students in a class. The number of students who play Cricket, Hockey, and Basketball are 125, 130, 135 respectively. If 5 students do not play any of the three games, the number of students playing all the three games must be at least _____.

- A. 90
- B. 95
- C. 100
- D. 105



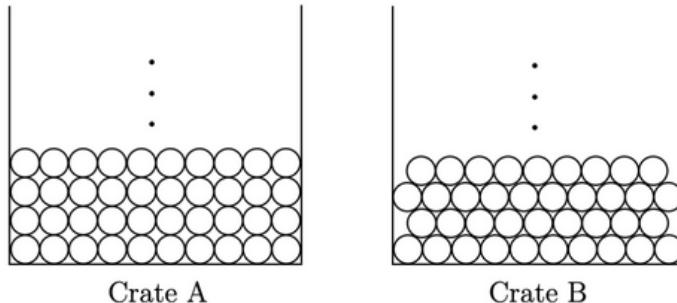
Daily Quiz # 156

34. Miscellaneous



(Quiz Question 156) Two identical rectangular crates are packed with cylindrical pipes, using different methods.

Each pipe has diameter 10 cm. A side view of the first four rows of each of the two different methods of packing is shown below.



If 200 pipes are packed in each of the two crates, how many rows of pipes are there in crate B? (Numerical Answer Type)



Daily Quiz # 157



(Quiz Question 157) If $a > 0$ and $b > 0$, a new operation ∇ is defined as follows: $a \nabla b = \frac{a+b}{1+ab}$. For example, $3 \nabla 6 = \frac{3+6}{1+3 \times 6} = \frac{9}{19}$.

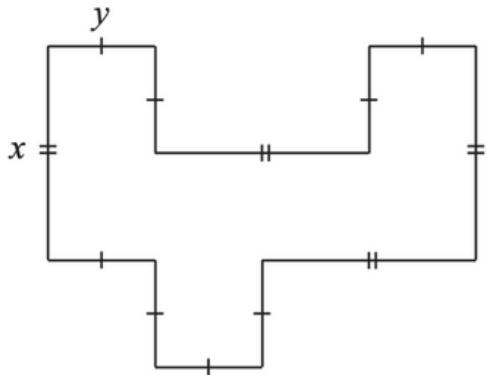
For some values of x and y , the value of $x \nabla y$ is equal to $\frac{x+y}{17}$. Determine all possible ordered pairs of positive integers x and y for which this is true. (Numerical Answer Type)



Daily Quiz # 158



(Quiz Question 158) In the diagram, each line segment has length x or y . Also, each pair of adjacent sides is perpendicular.



If the area of the figure is 252 and $x = 2y$, the perimeter of the figure is _____. (Numerical Answer Type)



Daily Quiz # 159



(Quiz Question 159) On Monday, 10% of the students at Dunkley S.S. were absent and 90% were present. On Tuesday, 10% of those who were absent on Monday were present and the rest of those absent on Monday were still absent. Also, 10% of those who were present on Monday were absent and the rest of those present on Monday were still present. What percentage of the students at Dunkley S.S. were present on Tuesday?

- A. 81%
- B. 82%
- C. 90%
- D. 91%



Daily Quiz # 160



(Quiz Question 160) Suppose that a, b, c , and d are positive integers that satisfy the equations

$$ab + cd = 38$$

$$ac + bd = 34$$

$$ad + bc = 43$$

What is the value of $a + b + c + d$?

- A. 15
- B. 16
- C. 17
- D. 18