

# CDS-AFCAT 1 2025

SSBCrack  
EXAMS

LIVE

# MATHS

## AVERAGE

# MCQS



NAVJYOTI SIR



## 27 Jan 2025 Live Classes Schedule

9:00AM --- 27 JANUARY 2025 DAILY DEFENCE UPDATES --- DIVYANSHU SIR

10:00AM --- 27 JANUARY 2025 DAILY CURRENT AFFAIRS --- RUBY MA'AM

### SSB INTERVIEW LIVE CLASSES

9:30AM --- MOCK PERSONAL INTERVIEWS --- ANURADHA MA'AM

### AFCAT 1 2025 LIVE CLASSES

✓ 12:30PM --- REASONING - FIGURE ANALOGY --- RUBY MA'AM

✓ 3:00PM --- STATIC GK - AWARDS & HONOURS --- DIVYANSHU SIR

✓ 4:30PM --- ENGLISH - SYNONYMS - CLASS 2 --- ANURADHA MA'AM

✓ 5:30PM --- MATHS - AVERAGE --- NAVJYOTI SIR

### NDA 1 2025 LIVE CLASSES

✓ 10:00AM --- MATHS - COMPLEX NUMBERS --- NAVJYOTI SIR

✓ 11:30AM --- MEDIEVAL HISTORY - CLASS 2 --- RUBY MA'AM

✓ 1:00PM --- PHYSICS - WAVES & SOUND --- NAVJYOTI SIR

✓ 4:30PM --- ENGLISH - SYNONYMS - CLASS 2 --- ANURADHA MA'AM

### CDS 1 2025 LIVE CLASSES

✓ 11:30AM --- MEDIEVAL HISTORY - CLASS 2 --- RUBY MA'AM

✓ 1:00PM --- PHYSICS - WAVES & SOUND --- NAVJYOTI SIR

✓ 4:30PM --- ENGLISH - SYNONYMS - CLASS 2 --- ANURADHA MA'AM

✓ 5:30PM --- MATHS - AVERAGE --- NAVJYOTI SIR



Q) The average of 41 consecutive odd numbers is 49. What is the largest number.

(a) 89

(b) 91

(c) 93

(d) 95

$$\frac{a + (a+2) + (a+4) + (a+6) + \dots + (a+80)}{41} = 49$$

Largest number

$$\frac{41a + (2+4+6 \dots 80)}{41} = 49$$

$$a + \frac{2(1+2+3 \dots 40)}{41} = 49$$

$$\frac{a + \cancel{2} \times \frac{40(41)}{\cancel{2}}}{41} = 49$$

$$a + 40 = 49$$

$$a = 9$$

$$\text{largest number} = a + 80$$

$$= 9 + 80$$

$$= \boxed{89}$$

**Q)** The average of 41 consecutive odd numbers is 49. What is the largest number.

- (a) 89            (b) 91            (c) 93            (d) 95

**Ans: (a)**



Q) The average marks of section  $A$  are 65 and that of section  $B$  are 70. If the average marks of both the sections combined are 67, then the ratio of number of students of section  $A$  to that of section  $B$  is

- (a) 3 : 2      (b) 1 : 3      (c) 3 : 1      (d) 2 : 3

let the number of students in section  $A$  be  $x$  and section  $B$  be  $y$ .

$$\frac{65x + 70y}{x + y} = 67 \quad \left\{ \begin{array}{l} 3y = 2x \\ \frac{x}{y} = \frac{3}{2} = 3:2 \end{array} \right.$$
$$65x + 70y = 67x + 67y$$

Q) The average marks of section  $A$  are 65 and that of section  $B$  are 70. If the average marks of both the sections combined are 67, then the ratio of number of students of section  $A$  to that of section  $B$  is

- (a) 3 : 2      (b) 1 : 3      (c) 3 : 1      (d) 2 : 3

Ans: (a)

Q) Nine men went to a hotel. 8 of them spent ₹ 3 each over their meals and the ninth spent Rs 2 more than the average expenditure of all the nine. The total money spent by all of them was

- (a) ₹ 26      (b) ₹ 40      (c) ₹ 29.25      (d) ₹ 27

Let the average of all nine be  $x$ .

$$\underline{9x} = (8 \times 3) + (x + 2)$$

$$8x = 24 + 2 = 26$$

$$x = \frac{26}{8} = 3.25$$

$$9x = 9 \times 3.25$$

$$= \underline{29.25}$$

$$\underline{\underline{\text{₹ } 29.25}}$$



Q) Nine men went to a hotel. 8 of them spent ₹ 3 each over their meals and the ninth spent Rs 2 more than the average expenditure of all the nine. The total money spent by all of them was

- (a) ₹ 26      (b) ₹ 40      (c) ₹ 29.25      (d) ₹ 27

**Ans: (c)**

Q) The average temperature for Monday, Tuesday and Wednesday was  $55^\circ$ , the average for Tuesday, Wednesday and Thursday was  $60^\circ$ , that for Thursday being  $56^\circ$ , what was the temperature on Monday ?

- (a)  $39^\circ$                       (b)  $41^\circ$   
(c)  $45^\circ$                       (d) None of these

$$\text{Mon} + \text{Tue} + \text{Wed} = 3 \times 55^\circ = 165^\circ$$

$$\text{Tue} + \text{Wed} + \text{Thur} = 3 \times 60^\circ = 180^\circ$$

$$\text{Thur} = \underline{56^\circ}$$

$$\text{Tue} + \text{Wed} = 180^\circ - 56^\circ = \underline{124^\circ}$$

$$\begin{aligned} \text{Mon} &= 165^\circ - 124^\circ \\ &= \underline{41^\circ} \end{aligned}$$



Q) 3 years ago the average age of a family of 5 members was 17 years. With the birth of a new baby, the average age of six members remains the same even today. Find the age of the new baby.

(a) 1 year

(b) 2 years

(c)  $1\frac{1}{2}$  years

(d) cannot be determined

→ let 'x' years

sum of ages of 5 members =  $5 \times 17 = 85$  years

$$17 = \frac{85 + (3 \times 5) + x}{6} \Rightarrow x = (6 \times 17) - 100$$

$$x = 102 - 100 = 2 \text{ years}$$

**Q)** 3 years ago the average age of a family of 5 members was 17 years. With the birth of a new baby, the average age of six members remains the same even today. Find the age of the new baby.

- (a) 1 year                      (b) 2 years  
(c)  $1\frac{1}{2}$  years              (d) cannot be determined

**Ans: (b)**

Q) A librarian purchased 60 story books for his library. But he found that he could get 4 extra books by spending ₹ 336 more and then the overall average price per book would be reduced by ₹ 1. The previous average price of each book was

- (a) ₹84      (b) ₹83      (c) ₹68      (d) ₹100

let ₹ x

$$\frac{60x + 336}{60 + 4} = x - 1$$

$$60x + 336 = 64x - 64$$

$$4x = 336 + 64$$

$$4x = 400$$

$$x = 100$$

$$₹ 100$$



**Q)** A librarian purchased 60 story books for his library. But he found that he could get 4 extra books by spending ₹ 336 more and then the overall average price per book would be reduced by ₹ 1. The previous average price of each book was

- (a) ₹84      (b) ₹ 83      (c) ₹68      (d) ₹100

**Ans: (d)**



**Q)** Out of 250 observations, the first 100 observations have mean 5 and the average of the remaining 150 observations is  $\frac{25}{3}$ . What is the average of the whole group of observations?

(a) 6

(b) 7

(c) 8

(d) 9

**Ans: (b)**

Q) Three science classes  $A$ ,  $B$  and  $C$  take a Life Science test. The average score of class  $A$  is 83. The average score of class  $B$  is 76. The average score of class  $C$  is 85. The average score of class  $A$  and  $B$  is 79 and average score of class  $B$  and  $C$  is 81. Then the average score of classes  $A$ ,  $B$  and  $C$  is

- (a) 80.5      (b) 81.5      (c) 80      (d) 81

$A$  — }  
 $B$  — } number of  
 $C$  — } students in  
           } each class,

$$83A \quad 76B \quad 85C \quad \left. \vphantom{83A} \right\} \underline{\text{Total marks}}$$

$$\frac{83A + 76B}{A + B} = 79$$

$$\frac{76B + 85C}{B + C} = 81$$

$$\frac{83A + 76B}{A + B} = 79$$

$$\frac{A + B}{A + B}$$

$$\frac{4A}{4} = \frac{3B}{3}$$

$$\frac{A}{4} = \frac{3B}{4}$$

$$\frac{76B + 85C}{B + C} = 81$$

$$\frac{B + C}{B + C}$$

$$5B = 4C$$

$$C = \frac{5}{4}B$$

$$\frac{83A + 76B + 85C}{A + B + C} = ?$$

$$83\left(\frac{3}{4}B\right) + 76B + 85\left(\frac{5}{4}B\right)$$

$$\frac{3}{4}B + B + \frac{5}{4}B$$

$$83\left(\frac{3}{4}B\right) + 76B + 85\left(\frac{5}{4}B\right)$$

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$$\frac{3}{4}B + B + \frac{5}{4}B$$

$$\frac{249 + (76 \times 4) + 425}{3 + 4 + 5} = \frac{249 + 304 + 425}{12}$$

$$= \frac{978}{12} = 81.5$$



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- (a) 80.5      (b) 81.5      (c) 80      (d) 81

**Ans: (b)**

Q) The price of a commodity increased by 5% from 2010 to 2011, 8% from 2011 to 2012 and 77% from 2012 to 2013. What is the average price increase (approximate) from 2010 to 2013?

- (a) 26%                      (b) 32%  
(c) 24%                      (d) 30%

$$\frac{(5\%) + (8\%) + (77\%)}{3} = \frac{90\%}{3} = 30\%$$



**Q)** I was born 30 years after my father was born. My sister was born 25 years after my mother was born. The average age of my family is 26.25 years right now. My sister will get married 4 years from now and will leave the family. Then the average age of the family will be  $\frac{107}{3}$  years. What is the age of my father?

- |              |              |
|--------------|--------------|
| (a) 30 years | (b) 35 years |
| (c) 40 years | (d) 45 years |

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- (a) 30 years                      (b) 35 years  
(c) 40 years                      (d) 45 years

**Ans: (d)**

**Q)** The average monthly salary of all the employees in a factory is ₹ 8840. If the average salary of all the officers is ₹ 15000 and that of the remaining employees is ₹ 8000, then what is the percentage of the officers among the employees?

- (a) 12%      (b)  $9\frac{5}{7}\%$       (c)  $8\frac{1}{3}\%$       (d)  $11\frac{2}{3}\%$



**Q)** The average monthly salary of all the employees in a factory is ₹ 8840. If the average salary of all the officers is ₹ 15000 and that of the remaining employees is ₹ 8000, then what is the percentage of the officers among the employees?

- (a) 12%      (b)  $9\frac{5}{7}\%$       (c)  $8\frac{1}{3}\%$       (d)  $11\frac{2}{3}\%$

**Ans: (a)**

**Q)** A family consists of grandparents, parents and three grandchildren. The average age of the grandparents is 67 years, that of the parents is 35 years and that of the grandchildren is 6 years. What is the average age of the family?

- (a)  $28\frac{4}{7}$  years                      (b)  $31\frac{5}{7}$  years
- (c)  $32\frac{1}{7}$  years                        (d) None of these

**Q)** A family consists of grandparents, parents and three grandchildren. The average age of the grandparents is 67 years, that of the parents is 35 years and that of the grandchildren is 6 years. What is the average age of the family?

- (a)  $28\frac{4}{7}$  years                      (b)  $31\frac{5}{7}$  years  
(c)  $32\frac{1}{7}$  years                      (d) None of these

**Ans: (b)**

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