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## Average Questions for CLAT, CDS & SSC Exams.

### Average Quiz 6

Directions: Kindly study the following Questions carefully and choose the right answer:

1. The average age of A and B is 20 years. If A is to be replaced by C, the average would be 19 years. The average age of C and A is 21 years. The ages of A, B and C in order (in years) are

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

2. The mean high temperature of the first four days of a week is  $25^{\circ}\text{C}$  whereas the mean the last four days is  $25.5^{\circ}\text{C}$ . If the man of the whole week is  $25.2^{\circ}\text{C}$  then the temperature of the 4th days is

- A.  $25^{\circ}\text{C}$                                   B.  $25.2^{\circ}\text{C}$                                   C.  $25.5^{\circ}\text{C}$                                   D.  $25.6^{\circ}\text{C}$

3. A shop of electronic goods is closed on Monday. The average sales per day for remaining six days of a week is Rs. 15640 and the average sale of Tuesday to Saturday is Rs. 14124. The sales on Sunday is

- A. Rs. 21704                                  B. Rs. 23220                                  C. Rs. 20188                                  D. Data Inadequate

4. Find the average of the following set of numbers

354, 281, 623, 518, 447, 702, 876

- A. 538    B. 555    C. 568    D. None of these

5. The average marks obtained by a student in 6 subjects is 88. On subsequent verification it was found that the marks obtained by him in a subject was wrongly copied as 86 instead of 68. The correct average of the marks obtained by him is

- A. 86    B. 87    C. 85    D. 84

6. What is the arithmetic mean of first 20 odd natural numbers?

- A. 17    B. 19    C. 20    D. 22

7. The average of 9 numbers is 30. The average of first 5 numbers is 25 and that of the last 3 numbers is 35. What is the 6th number?

- A. 20    B. 30    C. 40    D. 50

**8. The average of 5 consecutive integers starting with 'm' is n. What is the average of 6 consecutive integers starting with (m + 2)?**

A.  $\frac{2n+5}{2}$

B. (n + 2)

C. (n + 3)

D.  $\frac{2n+9}{2}$

**9. Out of 4 numbers, whose average is 60, the first one is one-fourth of the sum of the last three. The first number is**

A. 15

B. 45

C. 48

D. 60

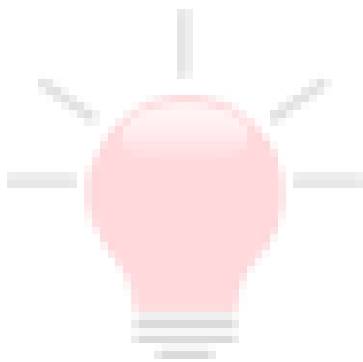
**10. If out of 10 selected students for an examination, 3 were of 20 years, age 4 of 21 and 3 of 22 years, the average age of the group is**

A. 22 years

B. 21 years

C. 21.5 years

D. 20 years



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**Correct Answers:**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
C	D	B	D	C	C	C	A	C	B

**Explanations:**

**1.**  $A + B = 2 \times 20 = 40$  yr

$B + C = 2 \times 19 = 38$  yr

$C + A = 2 \times 21 = 42$  yr

On adding all three,

$2(A + B + C) = 40 + 38 + 42 = 120$

$\Rightarrow A + B + C = 60$

$\therefore A = (A + B + C) - (B + C) = 60 - 38 = 22$  yr

Similarly,

$B = (A + B) - A = 40 - 22 = 18$  yr

$C = (C + A) - A = 42 - 22 = 20$  yr

Note: In this question we can save 4–5 seconds by not calculating the age of the third person as with only the respective ages of A and B we can confirm the correct answer out of the given options.

Hence, option C is correct.

**2.** To solve this question we can apply a short trick approach

Value of  $\left(\frac{n+1}{2}\right)^{\text{th}}$  result =  $\left(\frac{n+1}{2}\right) \times (b+c) - n \times a$

Where

n is the total number of term = 7 days

b is the average of first four terms = 25

c is the average of last four terms = 25.5

a is the average of whole terms = 25.2

By the short trick approach, we get

Value of  $\left(\frac{n+1}{2}\right)^{\text{th}}$  result =  $\left(\frac{7+1}{2}\right) \times (25 + 25.5) - 7 \times 25.2$

=  $\left(\frac{8}{2}\right) \times (50.5) - 176.4 \Rightarrow 202 - 176.4 = 25.6$

**Traditional method:**

Total average of first 4 days =  $4 \times 25 = 100$

Total average of last 4 days =  $4 \times 25.5 = 102$

Total average of 7 days =  $7 \times 25.2 = 176.4$

Temperature 4th day's =  $100 + 102 - 176.4 = 25.6$

Hence, option D is correct.

**3.** Total sales of 6 days =  $6 \times 15640 = 93840$

Total sales Tuesday to Saturday =  $5 \times 14124 = 70620$

Sunday's sale =  $93840 - 70620 = 23220$ .

Hence, option B is correct.

**4.**

$$\text{Average} = \frac{354 + 281 + 623 + 518 + 447 + 702 + 876}{7}$$

$$= \frac{3801}{7} = 543$$

Hence, option D is correct.

**5.** Total number of marks =  $88 \times 6 = 528$

Now,  $528 - 86 + 68 = 510$

$$\text{Required average} = \frac{510}{6} = 85.$$

Hence, option C is correct.

**6.** The sum of first  $n$  odd numbers =  $n^2$

Then, the sum of 20 odd numbers =  $(20)^2 = 400$

$$\text{Required mean} = \frac{400}{20} = 20.$$

Hence, option C is correct.

**7.** As per the given information, we get

Average of 9 numbers = 30. So, total of the numbers =  $30 \times 9 = 270$

Average of first 5 numbers = 25. So, total of the numbers =  $5 \times 25 = 125$

Average of last 3 numbers = 35. So, total of the numbers =  $3 \times 35 = 105$

Hence, the 6th number =  $270 - (125 + 105) = 270 - 230 = 40$ .

Hence, option C is correct.

**8.** Numbers are  $m, m + 1, m + 2, m + 3, m + 4$ .

$$\Rightarrow m + m + 1 + m + 2 + m + 3 + m + 4 = 5n$$

$$\Rightarrow 5m + 10 = 5n$$

$$\Rightarrow m + 2 = n \quad \dots(i)$$

$$\therefore \text{Required avg} = \frac{m+2 + m+3 + m+4 + m+5 + m+6 + m+7}{6}$$

$$\Rightarrow \frac{6m + 27}{6} = \frac{2m + 9}{2} = \frac{2(n - 2) + 9}{2} = \frac{2n + 5}{2}$$

(By equation (i))

Hence, option A is correct.

**9.**

Average of 4 numbers = 60. So, total of the numbers =  $4 \times 60 = 240$

Let the first number be  $x$ , then,

$$x = \frac{1}{4}(240 - x)$$

$$4x = 240 - x \Rightarrow 5x = 240 \Rightarrow x = 48.$$

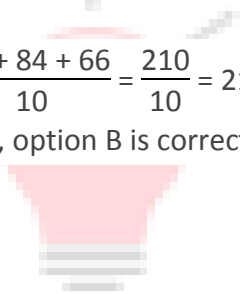
Hence, option C is correct.

**10.**

$$\text{Avg age of the whole group} = \frac{3 \times 20 + 4 \times 21 + 3 \times 22}{10}$$

$$= \frac{60 + 84 + 66}{10} = \frac{210}{10} = 21 \text{ years.}$$

Hence, option B is correct.



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