| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

1)The weights of 7 students of a class is 48,52,40,60,53,54 and 49kg respectively. Find the average weight of those students

a)50.857 b)50 c) 60 d)55

**Ans: a)50.857**

**Solution**

**Method 1:** Basic Method

Average = (Sum of observations) / (Total no of observations)

=48+52+40+60+53+54+49/7

=50.857.

**Method 2:**

Assume **50** as average. Compare 50 with the remaining observations.

| | | | | | | |
|---|---|---|---|---|---|---|
| 48 | 52 | 40 | 60 | 53 | 54 | 49 |
| -2 | +2 | -10 | +10 | +3 | +4 | -1 |

Adding all these ( -2+2-10+10+3+4-1)/7

=6/7

= 0.857

Adding the result into **50**+0.857=**50.857.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

2)A scored 73,74,20, and 7 runs in four out of five innings. What should be his score in the fifth innings, if he has to make an average of55 runs in five innings?

a)99 b)11 c)55 d)42

**Ans: a)99**

**Solution**

**Method 1:** Basic Method

Average = (Sum of observations) / (Total no of observations)

55 =73+74+20+7+x/5

X=99.

**Method 2:**

Given 55 as average. Compare 55 with the remaining observations

| 73 | 74 | 20 | 7 | Vth Innings |
|---|---|---|---|---|
| +18 | +21 | -35 | -48 | |

= +39-83

What value should be added to make the sum zero;

39 +44=83

So +83-83=0. Adding 44+55=**99**.

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

3)The average of 36,28,43,56,74,65,12and x is 45. What is the value of x?

a)48 b)42 c)44 d)46

**Ans: d)46**

**Solution**

**Method 1:** Basic Method

Average = (Sum of observations) / (Total no of observations)

45 =36+28+43+56+74+65+12+x/8

X=46.

**Method 2:**

Given **45** as average. Compare 55 with the remaining observations

| 36 | 28 | 43 | 56 | 74 | 65 | 12 | x |
|---|---|---|---|---|---|---|---|
| -9 | -17 | -2 | +11 | +29 | +20 | -33 | **+1** |

=-50+49

-50+49**+1**=0

Adding 45**+1**=**46.**

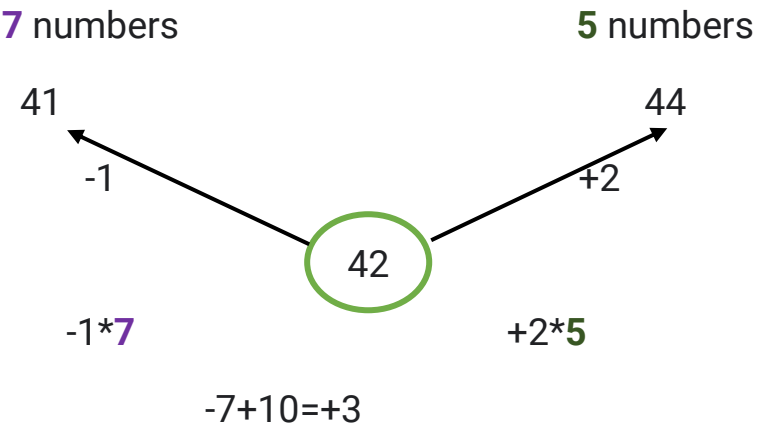
| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

4)Set A contains Seven numbers and the average of these numbers is 41. Set B contains five numbers and the average of these numbers is 44. The overall average of both the sets is

a)42.75 b)42.25 c)41.75 d)42.5

**Ans: d)42.5**

**Solution**




Total number of observations= 7+5=12

+3/12=1/4=0.25 42+0.25=**42.25**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

5)The average of a and b is 36. The average of b and c is 42. What is the difference between c and a?

a)18 b)12 c)16 d)14

**Ans: b)12**

(a+b)/2=36 b+c/2=42

a+b=72 b+c=84

Difference between c and a =c-a=**12**

6)The average weight of A, B, C is 65kg.If the average weight of A and B is 63.5kg and the average weight of A and C is 67.5kg. Then the weight of A in kg is

a)65 b)67 c)60 d)68

**Ans: b)67**

**Solution**

**Method 1:** Basic Method

**A+B+C/3=65 A+B+C=195 ⟶ 1**

**A+B/2=63.5 A+B=127 ⟶ 2**

**A+C/2=67.5 A+C=135 ⟶ 3**

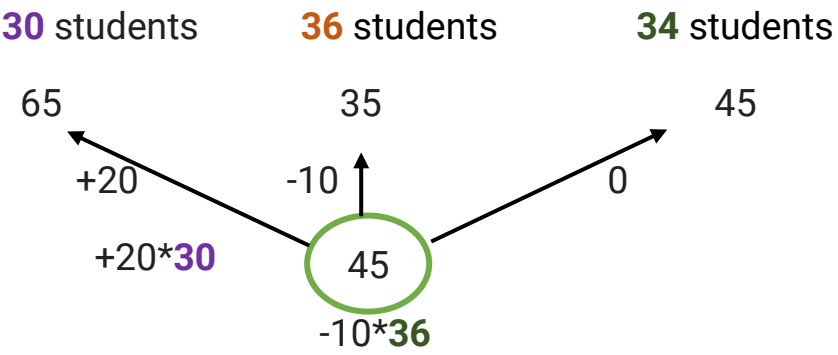
Solving Equations 1,2 and 3 we get **A=67**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

6)The average score of 30 students Is 65,36 students is 35 and 34 students is 45. The average score of all the student is

a)45.3 b)46.4 c)45.7 d)47.4

**Ans: d)47.4**




Total number of observations= **30+36+34=100**

**+600-360** /100 **=240/100=2.4**

Adding 45+2.4 **=47.4**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

7)The average of n numbers is36.If each of 75% of the numbers is increased by 6 and each of the remaining numbers is decreased by 9, then the new average of the number is

a)37.125 b)33.75 **c)38.25** d)36.25

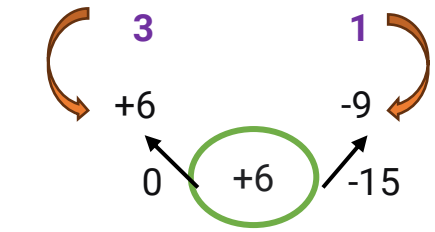
**Ans: c)38.25**

N - numbers (Assuming it as 100%)

Given 75% 25%

+6 -9

Simplified in to ratio




(+6*0)+(1*-15) **+15 (To make the sum zero)**

+15/**4=+2.25**

Then the average is 36**+2.25=38.25**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

8)The average of some numbers is 54.6. If 75% of the number are increased by 5.6 each and the rest are decreased by 8.4 each then, What is the average of the numbers so obtained?

**a)56.7** b)55.6 c)55.8 d)56.3

**Ans: a)56.7**

| **3 (75%)** | **1(25%)** |
|---|---|
| **+**5.6 | **-**8.4 |
| +16.8 | -8.4 |

+8.4/4=+2.1

Given Average=54.6+**2.1=56.7**

9)A person bought 15 articles @Rs.70 Per article,13 articles @Rs.60 Per article and 12 articles @ Rs.65 Per article. The average cost (inRs) of per article is

a)65.25 b)63.25 c)65.00 d)65.75

**Ans: a)65.25**

**Solution**

**Method 1:** Basic Method

Average = (Sum of observations) / (Total no of observations)

=15x70+13x60+12x65/40.

=1050+780+780/40

=2610/40

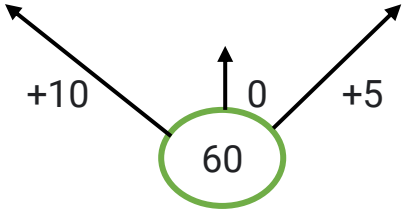
=**65.25**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

## Method 2:

Data: **15books** **13books** **12books**

Average 70 60 65




= (15*10+5*12)/40 =5.25

=60+5.25 =**65.25**

10)The average of a, b and c is 11,the average of c,d and e is 17,average of e and f is 22 and average of e and c is 17.What will be the average of a,b,c,d,e,and f?

a)15 2/3 b)18 1/2 c)21 1/3 d)16 ½

**Ans: a)15 2/3**

**Solution**

a+b+c/3=11 c+d+e/3=17 e+f/2=22 e+c/2=7

a+b+c=33 ⟶ A

c+d+e=51 ⟶ B } Adding

e+f=44 ⟶ C

e+c=14 ⟶ D Subtracting

➡ a+b+c+c+d+e+e+f-e-c ➡ a+b+c+d+e+f=94

94/6=47/3=**15 2/3.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

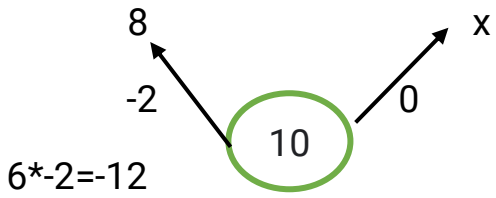
11)The average of 6 numbers is 8. What is the 7th number so that the average becomes 10

a)18 b)22 c)21 d)20

**Ans: b)22**

**Data** **6**numbers **1**number

**Average**




To make the sum zero, -12**+12=0**

Average is 10+**12=22.**

12)The average of 50numbers is 75. If the average of first set of 25 numbers is 65, then what is the average of the second set of 25 numbers?

a)105 b)95 c)85 d)75

**Ans: c)85**

**Solution**

**Method 1:** Basic Method

Average = (Sum of observations) / (Total no of observations)

50*75=25*65+(25+x)

3750=1625+25x

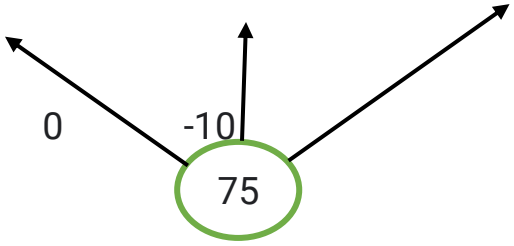
X=**85**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

## Method 2:

Data: **50numbers** **25numbers** **25numbers**

Average 75 65 x




To make the sum zero , 0-10**+10=0**

Average is 75+10=**85**

13)The average of 21 data is 36, out of which the first 12 data are having an average of 15. The average of the rest 9 data is

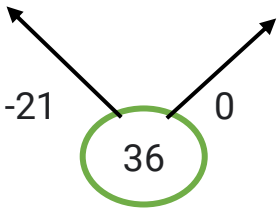
a)87 b)65 c)64 d)50

**Ans: c)64**

**Solution**

Data: **21numbers** **12numbers** **9numbers**

Average 36 15 x

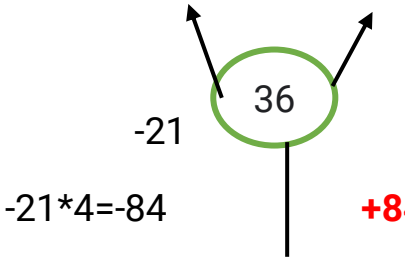


| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

Simplified into Ratio form.

4 : 3

15 x




-21*4=-84 **+84 (To make the sum zero)**

+84/3=+28

Then the average is 36**+28=64**

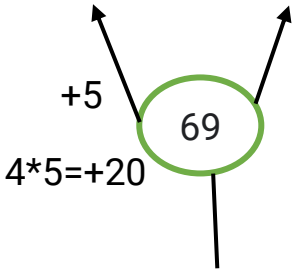
14)The average marks of 4 subjects is 64 and she got 69 marks in the fifth subject. What is the new average of marks obtained by madhu in the 5 subjects?

a)66 b)67 c)65 d)64

**Ans: c)65**

**Solution**

| **Subjects** | 4 | 1 |
|---|---|---|
| **Average** | 64 | 69 |




4*5=+20 **-20 (To make the sum zero)**

-20/5=-4 (Average of all the 5 Subjects)

Then the average is 69**-4=65**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

15)The average temperature of the first three days of the week is 23° and the average temperature of the next three days is 24° and the average temperature of the whole week is 23.5°. Find the temperature of the last day of the week?

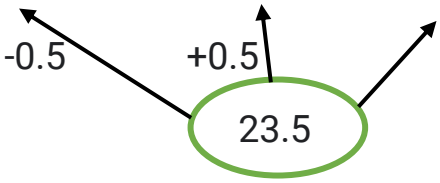
a)22.5° b)21.5° c)24.5° d)23.5°

**Ans: d)23.5°**

**Solution**

Data: **7 days** **3 days** **3 days** **1day**

Average 23.5 23 24 x




-0.5*3+0.5*3 **+0 (To make the sum zero)**

0/1=0

Average is 23.5+0=**23.5.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

16)A student has got an average score of 75 marks in 4 subjects. If he scored 80 marks in 5$^{th}$ subject. Then what is his new average?

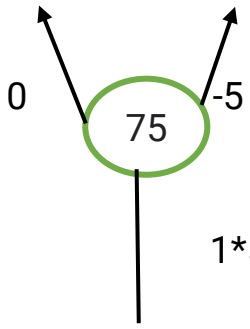
a)80 b)76 c)92 d)95

**Ans: b)76**

**Solution**

Subjects 4 1

Average 75 80




1*5=-5 **+5(To make the sum zero)**

+5/5=1(Average of all the 5 Subjects)

Then the average is 75**+1=76**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

17)In a primary school, there are 60 boys of age 12 years each,40 boys of age 13 years each,50 boys of age 14 years each and 50 boys of 15 years each. The average age (in years) of all the boys of the school is

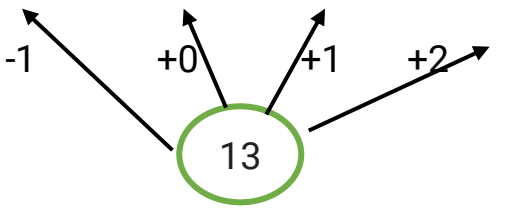
a)13.50 b)13 c)13.45 d)14

**Ans: c)13.45**

**Solution**

Data: 60 40 50 50

Avg: 12 13 14 15




= (60*-1) + (40*0) + (50*+1) + (50*+2)/ (60+40+50+50)

=-60+0+50+100/200

=+90/200

= +0.45

Hence new average is 13**+0.45=13.45**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

## TYPE 2: INCREASED/DECREASED/MULTIPLIED

18)Average of 12 numbers is 48. If each number is increased by 11, then what will be the new average?

a)13 b)58 c)64 d)59

**Ans: d)59**

**Solution**

Here each number is increased by 11. So average also increases by 11. Hence 48**+11**=**59.**

18 a) The arithmetic mean of set of 20 values is 55. What will be the new mean if each of the 20 value is

a) increased by 5

b) decreased by 5

c) multiplied by 5

d) divided by 5

**Solution**

a) The new mean is 55**+5**=60

b) The new mean is 55**-5**=50

c)The new mean is 55***5**=275

d)The new mean is 55**/5**=11

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

19)Average of 10 numbers is 20. If each number is first multiplied by 2 and then increased by 5,then what is the mean of the new numbers?

a)20 b)25 c)40 d)45

**Ans: d)45**

**Solution**

Here each number is first multiplied by 2 and increased by 5.

So average=20 **x2=40 and incremented by 5 So 40+5=45**

20)The average of all the prime numbers and composite numbers upto100 is

a)51 b)50 c)50.5 d)49.5

**Ans: a)51**

**Solution**

Natural numbers (1,2 ,…….100) ; Prime numbers (2,3,5,7,9……)

Composite numbers (4,6,8,9,10…

**Note:** 1 is neither prime nor composite.

So out of 100, totally **99 numbers= (Prime + Composite)**

Sum of first n natural numbers is n (n+1)/2=(100*101)/2=5050

Average= Sum/Total =(2+3+5+….+100)/99 (Sum of 100 numbers-1)/99

=5049/99=51

The 99 numbers are 2,3,5,7……..100

Average = (first term +Last term)/2 (2+100)/2=102/2=**51**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

21)The average of 30 continuous natural numbers is 15.5. If the next six numbers are included then what will be the new average?

a)18 b)18.5 c)12.5 d)9.5

**Ans:b)18.5**

**Solution**

**Natural Number**

**1,2,3…….. Average=(1+3)/2=4/2=2**

**1,2,3,4,5…. Average =(1+5)/2=6/2=3**

**Two numbers included,**

**Average increases by 1**

Increase in average = Old average **+** {(Common difference)/2}* (Numbers increased)

Decrease in average= Old average **-** {(Common difference)/2}* (Numbers increased)

**For natural numbers,common difference 1.**

= 15.5 +(1/2) *6=15.5+3=**18.5.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

22)The average of 25 continuous natural numbers is K. If the last five numbers are excluded

a)k+2.5 b)k-2.5 c)k-5 d)k-8

**Ans: b)k-2.5**

**Solution**

**Natural Number**

**1,2,3,4,5…. Average =(1+5)/2=6/2=3**

**1,2,3. Average=(1+3)/2=4/2=2** — **Two numbers excluded**

**Average decreases by 1**

Increase in average = Old average **+** {(Common difference)/2}* (Numbers included)

Decrease in average= Old average **-** {(Common difference)/2}* (Numbers excluded)

Here natural number has common difference 1.

= k -(1/2)*5=k-2.5=**K-2.5.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

23) What is the average of first 8 multiples of 6 among the natural numbers?

a)51 **b)27** c)6 d)48

6,12,18,24,30,36,42,48.

Average = (First term +Last term)/2

= (6+48)/2=54/2=**27.**

24)The average of the squares of 1 to 5 is

**a)11** b)5 c)8 d)9

**Formula** **Average of squares of first n natural numbers =(n+1)(2n+1)/6**

(6*11)/6=**11**

25)The average of first 55 even natural numbers

**a)56** b)55 c)54 d)28

**Formula** **Average of first n even natural numbers =(n+1)**

**=** 55+1=**56.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

26)The average of five consecutive numbers is M. If the next 5 even numbers are included the average of 10 numbers

a) M+10 b)11 **C)M+5** d)10

**Even Number**

**2,4,6…….. Average=(2+6)/2=8/2=4** — **Two numbers included,**

**Average increases by 2**

**2,4,6,8,10…. Average =(2+10)/2=12/2=6**

**For Even numbers Common difference is 2**

Increase in average = Old average **+** {(Common difference)/2}* (Numbers increased)

=M+(2/2)*5=**M+5**

27)The average of first 15 whole numbers?

a) 8 **b)7** C)9 d)10

Whole numbers 0,1,2,3,4…….14

Average =(First term+ Last term)/2

=0+14/2=**7**.

28)The average of 15 odd numbers is

a) 18 **b)15** C)16 d)17

Formula: **Average of first n odd numbers =n.**

So Average of 15 Odd numbers is **15.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

29)The average of 5 consecutive numbers is 53. What is the middle most number of these?

a) 53 b)54 C)52 **d)55**

**N, N+1, N+2, N+3, N+4/5=53**

Average =Sum/Total

53*5 = **N+N+1+N+2+N+3+N+4**

**265 =5N**

53=N

N+2=53+2 =**55**

**Note : Middle most value is the average odd number of elements.**

**Example (1,2,3,4,5). The average is 3.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

30)The average of 9 numbers is 60, that of the first 5 numbers is 55 and the next three is 65. The ninth number is 10 less than the tenth number. Then the tenth number is

a) 80 b)70 C)75 d)85

**Ans: a) 80**

**Explanation**

Average=Sum/Total

$A_9=S_9/9$

$S_9 =540$

The average of first 5 numbers is 55.

$A_5=S_5/5$

$55= S_5/5$

$55*5= S_5$

$S_5 =275$

The average of next 3 numbers is 65.

$A_3=S_3/3$

$65= S_3/3$

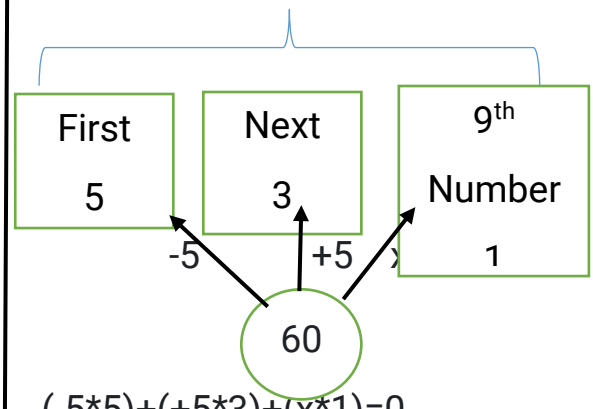
$65*3= S_3$

$S_3 =195$

The NINTH number =(S9-(S5+S3)) =540-(275+195) =70

The TENTH number is 70+10=**80**

**Alternative Method**




(-5*5)+(+5*3)+(x*1)=0

-25+15+x=0

-10+x=0

x= **+**10

Ninth number is deviated by 10

so 60+10=70

Tenth number= 70+10=**80.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

31)The average of 12 numbers is 42, The average of the last 5 numbers is 40 and that of the first four numbers is 44. The $6^{th}$ number is 6 less than the $5^{th}$ and 5 less than the $7^{th}$ number. The average of the $5^{th}$ and $7^{th}$ numbers is.

a) 44 **b)44.5** C)43 d)43.5

**Ans: b) 44.5**

**Solution**

Average=Sum/Total

$A_{12}=S_{12}/12$

$42 *12= S_{12}$

$S_{12}=504$

The average of last 5 numbers is 40.

$A_5=S_5/5$

$40= S_5/5$

$40*5= S_5$

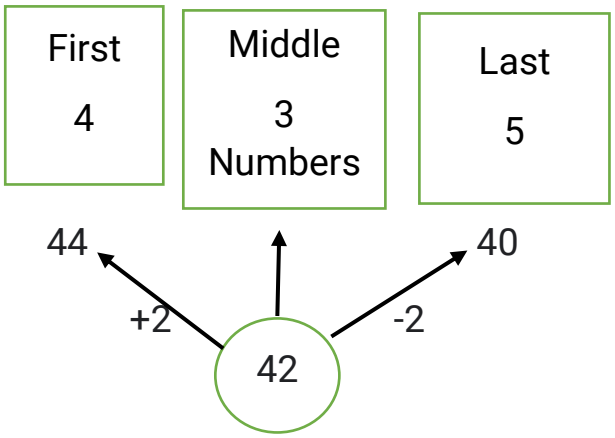
$S_5 =200$

The average of next 4 numbers is 44

$A_3=S_3/3$

$44= S_3/4$

**Alternative Method**




(4*+2)+3x+(5*-2) =8+3x-10

-2+3x=0 x=2/3

The average of 3 numbers is deviated by **+2/3**; So 42 +2/3=128/3

Let the $5^{th}$ number be X+6

$6^{th}$ number X

$7^{th}$ number X+5

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

$44*4= S_3$

$S_3 = 176$

Sum of 3 numbers =(S9-(S5+S3))

=504-(200+176) =128

Let the 5th number be X+6

6th number X

7th number X+5

(X+6) +X+(X+5) =128

3X=128-11

X=39

Average of 5th number and 7th number

5th number be 39+6=45

7th number be 39+5=44

Average= (45+44)/2=**44.5.**

X+6, X, X+5.

A= (X+6+ X+X+5)/3=(3X+11)/3

3 X **+11/3=128** /3

3 X **+11=128**

3 X=128-11 =117

X=39

5th number X+6=45

7th number X+5=44

Average = (44+45)/2=44.5

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

## REPLACEMENT

32)The average weight of 8 men is increased by 1 ½ kg when one of the crew whose weight is 60 kg is replaced by a new man, then weight of the new man (in kg) is

a)70kg b)68kg c)71kg **d)72kg**

**Solution**

**New person weight = Replaced (data) + Increased average value*Total No of Persons**

=60+1.5*8

**=72**

33) Out of 10teachers of a school, one teacher retires and in place of him a new teacher who is 25 years old joins. As a result average age of the teacher reduces by 3 years, Age of the retired teacher (in years) is

**a)55kg** b)65kg c)45kg d)67kg

**New Person = Replaced(data) – Decreased average value*Total No of Persons**

25 = X - (3*10)

X=25+30=55

**X=55.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

34)There are 50 students in a class. One of them weighing 50 kg goes away and a new student joins. By this the average weight of the class is increased by ½ kg. The weight of the new student is

a)70kg b)72 kg c)76 kg **d)75 kg**

**New Person = Replaced(data) + Increased average value*Total No of Persons**

=50+0.5*50

=50+25=**75**

35)Average age of 8 men is increased by 3 years when two of them whose age are 30 and 34 years are replaced by 2 persons. What is the average age of 2 new persons?

a)24 b)32 **c)44** d)48

**New Person = Replaced(data) + Increased average value*Total No of Persons**

= (30+34) +8*3

=88 (Sum of the ages of the two persons With Replaced weights)

Average=Sum/Total

88/2=**44** Years.

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

36)The average age of 8 men is increased by 2 years when two of them whose age are 21 and 23 years replaced by two new men.The average age of the two new men is

a)22 b)24 **c)30** d)28

**New Person = Replaced(data) + Increased average value*Total No of Persons.**

= (21+23) +2x8

=44+16

=60 (Sum of the ages of the two persons With Replaced weights)

Average=60/2=**30 Years.**

37)The average age of 11 players of a cricket team is increased by 2 months. When two of them aged 18 years and 20 years are replaced by two new players. The average age of the two new players is

a)19 years 1 month b) 19 years 1 month

**c) 19 years 11 months** d) 19 years 5 months

**New Person = Replaced(data) + Increased average value*Total No of Persons.**

= (18+20) +2monthsx11players

N =38+22 months

Average=N/2**=19 Years+11 months.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

38) The average age of 20 men is 30 years. A 50year old man leaves the group while a woman joins the group. The average age decreases by 1 year. What is the age of the woman?

a)40years **b)30years** c)35 years d)38years

=50-(1*20)

=50-20=30years

39) The average age of 40 students is 16 years. If 17 years of a student replace by another student, then average age become 15.875. What is the age of the new boy?

a)17years **b)12years** c)22 years d)5years

Average (old)=16

Average new = (15.875)

Decrease in average =16-15.875=0.125

=17-(0.125*40)

=17-5=**12 years**.

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

40) Government made a committee of 8 members. When two men of 45 years and 50 years are replaced by two men then average age of all the members of the committee is decreased by 3.5 years. Find the average age of those two men.

a)28 **b)33.5** c)22 d)5

New =Old- (Decreased average*No. of. Data)

= (45+50)- (3.5*8)

=95-(35/10) *8)

=95-28

New average=67/2=**33.5.**

## INCLUSION

41)The mean weight of 34 students of a school is 42kg.If the weight of the teacher also included. The mean rises by 400 grams. Find the weight of the teacher.

a)55kg b)57kg c)66kg **d)56kg**

**New data = Old average + Increased average value*Total No of Persons (With inclusion)**

=42+(0.4*35) 34**+1included**

=42+(4/10*35)

=42+14 **=56kg**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

42)The average of 13 numbers is 42.If a $14^{th}$ number is included, then the average becomes 44.What is the $14^{th}$ number?

**a)70** b)62 c)66 d)68

**New data = Old average + Increased average value*Total No of Persons (With inclusion)**

=42+(2*14) 13**+1included**

=42+(2*14)

=42+28

**=70**

43)24 students collected money for donation. The average contribution was Rs.50. Later on their teacher also contributed some money. Now the contribution becomes 56.The teacher's contribution

a)56 **b)200** c)106 d)194

New=Old +Increased*No.of datas (with Inclusion)

=50+(6*25)

**=200.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

44)The average of 18 numbers is 37.5. If six numbers of average x are added to them then the average of all the numbers increases by one.

a)56 **b)200** c)106 d)194

**Basic method**

18*37.5+6x= 24*38.5

6x=24*38.5-(18*37.5)

X= (24*38.5)- (18*37.5)/6

= (4*38.5)- (3*37.5)

=154-112.5 **=41.5**

45) The average weight of 12 articles is 18kg.Addition of another new article reduces the average weight by 500g.What is the weight of the new article.

**a)11.5kg** b)15.5kg c)15.0kg d)10.1kg

New=Old - Decreased*No.of datas (with Inclusion)

= 18-(0.15*13)

=18-6.5

**=11.5kg.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

46)The average age of 20 students of a class is 16 years. If 2 teachers are also included then average becomes 18 years of all the members. Find the average age of the teachers.

a)40 b)39 c)37 **d)38**

**New data = Old average + Increased average value*Total No of Persons (With inclusion)**

=16+2*22

=16+44/2

=16+22=**38**.

47)The average age of 6 workers of an office is 37 years. On appointing a new worker the average age is decreased by 2 years. Find the average age of the worker.

a)22 b)20 c)25 **d)23**

**New data = Old average - Decreased average value*Total No of Persons (With inclusion)**

=37-2*7 =37-14 **=23.**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

## EXCLUSION

48)The average height of a 25 boys is 1.4m. When 5 boys leave the group, then the average height increases by 0.15m. What is the average height of 5 boys who leave?

**a) 0.8m** b)0.9m c)0.95m d)1.05m

No.of boys =25

Average height of 25 boys=1.40m

Sum of height of 25 boys is 25*1.4=35m

No. of boys =20 (with exclusion)

Average = (1.40+**0.15**) =1.55

Sum =1.55*20=31

Average height of

5 boys who left = (Sum of 25 boys height- Sum of 25 boys height)/5

= (35-31)/5

=4/5=**0.8m**

| Name of the Bundle | PROFICIENT BUNDLE | Subject | QUANTITATIVE APTITUDE |
|---|---|---|---|
| Topic | AVERAGE | Last updated on | 15 March 2024 |

49)The average age of 14 girls and their teachers is 15 years. If teacher's age is excluded then the average reduces by 1. What is the teacher's age?

a)40 b)39 c)37 **d)29**

**New data = Old average + Increased average value*Total No of Persons (With exclusion)**

=15+(1*14) =15+14=**29**

50)The average of 5 numbers is 27. If one number is excluded the average becomes 25. The excluded number is

a) 28 b)39 c)37 **d)35**

**Basic Method**

Average of 5 numbers =27

Sum of 5 numbers=27*5=135

Average of 4 numbers = 24

Sum of 4 numbers=24*5=100

1 Number excluded= Sum of 5 numbers- Sum of 4 numbers

135-100=35

**New data = Old average + decreased average value*Total No of Persons (With exclusion)**

= 27+(2*4) **Average value Decreased by 2 =27-25**

=27+8 =**35**