AVERAGE/औसत

1. The average marks obtained by 120 candidates in a 10th board examination are 35. If the average marks of passed candidate is 39 and that of the failed candidates is 15, what is the number of candidates who passed the board examination?
(a)110 (b)115
(c)120 (d)100

2. The average age of 8 persons in a health committee is increased by 2 years when two men aged 35 years and 45 years are substituted by two women. Find the average age of these two women.
(a)48 (b)36
(c)42 (d)29

3. In a class 12th , there are 20 boys whose average age is decreased by 2 months, when one boy aged 18 years is replaced by a new boy. Find the age of new boy.
(a) 19 years/ वर्ष (b) 14 years/ वर्ष 6 months/ महीने
(c) 15 years/ वर्ष (d) 14 years/ वर्ष 8 months/ महीने

4. One -third of certain holiday journey is covered at the rate of 25kmph, one-fourth at the rate of 30kmph and the rest at 50 kmph. Find the average speed for the whole journey.
(a) 33.33 kmph/ किमी./घ. (b) 36 kmph/ किमी./घ.
(c) 42 kmph/ किमी./घ. (d) 27 kmph/ किमी./घ.

5. The average salary of the entire staff in a telecom office is Rs 120 per month. The average salary of officers is Rs 460 and of non-officers is Rs 110. If the number of officers is 15, then find the No of non-officers in the office.
(a) 480 (b) 500
(c) 510 (d) 430

6. There were 35 students in a Rani Girls hostel .If the number of students increased by 7, the expenses of the mess increases by Rs. 42 per day, while the average expenditure per head diminishes by Rs.1. Find the original expenditure of the mess.
(a) 420 (b) 400
(c) 480 (d) 460

7. The average weight of A, B and C is 84 kg. If D joins the group, the average weight of the group becomes 80 kg. If another man E who weights is 3 kg more than D Replaces A, Then the average of B, C, D and E becomes 79 kg. What is the weight of A?
(a) 64 (b) 72
(c) 75 (d) 100

8. In an exam, the average was found to be 50 marks. After deducting computational errors the marks of the 100 candidates had to be changed from 90 to 60 each and average came down to 45 marks. Total No of candidates who took the exam were.
(a) 300 (b) 600
(c) 200 (d) 150

9. The average of 8 No's is 20. The average of first two No's is 15.5 and that of next three No's is 64/3.if the 6th No be less than the seventh and eight No. by 4 and 7 respectively, then find eight No.
(a) 26 (b) 25.5
(c) 27 (d) 25

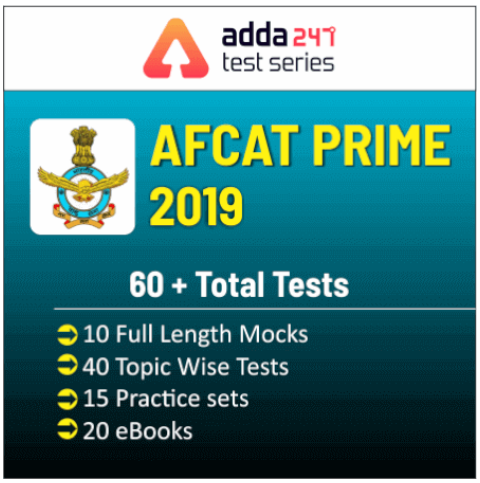
10. The average age of a jury of 5 is 40, if a member aged 35 resigns and a man aged 25 becomes a member, then the average age of the new jury is
(a) 30 (b) 38
(c) 40 (d) 42

11. The average weight of 8 person is increased by 2.5 kg when one of them whose weight is 56 kg is replaced by a new man. The weight of the new man is:
(a) 58.5 kg (b) 76 kg
(c) 20 kg (d) 64 kg

12. Last year my age was a perfect square number next year it will be a cubic number. what is my present age?
(a) 26 years/ वर्ष (b) 24 years/ वर्ष
(c) 25 years/ वर्ष (d) 27 years/ वर्ष

13. A batsman is his 17th innings makes a score of 85, and thereby increases his average by 3. What is his average after 17 innings?
(a) 40 (b) 36
(c) 37 (d) 38

14. Anil earns 3/2 times in January, April, July and October than his average earning of Rs.600 per month in the rest of the month. So his savings in the January, April, July and October goes to 5/4 times that of the rest months saving of Rs.400 per month in the year. The average expenditure of per month is:
(a) Rs.266.66 (b) Rs.250
(c) Rs.233.33 (d) Rs.433.33



15. The average age of Solanki and Chiru is 35 years. If Dhruv replaces Solanki, the average age becomes 32 years and if Dhruv replaces Chiru, then the average age becomes 38 years. If the average age of Robin and Raghav is half of the average age of Solanki, Chiru and Dhruv ,then the average age of all the five people is:

(a) 28 years/ वर्ष (b) 32 years/ वर्ष
(c) 25 years/ वर्ष (d) 30 years/ वर्ष

16. The average rain fall in the months of January and February is 6 cm and in the months of March to June is 5 cm and July to October is 10 cm and in the November and December, it is 6 cm. The average rainfall for the whole year is:

(a) 7 (b) 5.5
(c) 7.5 (d) 8.5

17. The average age of a Royal family of 6 members 4 year ago was 25 years. Meanwhile a child was born in this family and still the average age of the whole family is same today. The present age of the child is:

(a) 2 years/ वर्ष (b) 11/2 years/ वर्ष
(c) 1 year/ वर्ष (d) data insufficient/ आंकड़े अपर्याप्त

18. The average salary is being paid to all its employees by the Alpine Tech corporation is 15,500. The average salary of the senior employees is 18000 per month and the average salary of the junior employees is 12,000 per month. If there are only two levels of employees viz junior and senior level, then what fraction of the total employees is the junior level employees are:

(a) 7/10 (b) 5/12
(c) 5/10 (d) 7/12

19. There were five sections in BOM Banking Exam paper. The average score of Pallavi in first 3 sections was 83 and the average in the last 3 sections was 97 and the average of all the sections (i.e., whole paper) was 92, then her score in the third section was:

(a) 85 (b) 92
(c) 80 (d) 90

20. The average weight of A, B, C and D is 40 kg. A new person E is also included in the group, then the average weight of the group is increased by 1kg. Again a new person F replaces A, then the new average of 5 person becomes 42. The average weight of B, C, D, F is:

(a) 42 (b) 41.25
(c) 42.5 (d) 40.5

21. A grocer has a sale of Rs. 6435, Rs. 6927, Rs. 6855, Rs. 7230 and Rs. 6562 for 5 consecutive months. How much sale must he have in the sixth month so that he gets an average sale of Rs. 6500?

(a) Rs. 4991 (b) Rs. 5991
(c) Rs. 6001 (d) Rs. 6991

22. In the first 10 overs of a Test cricket match, the run rate was only 3.2. What should be the run rate in the remaining 40 overs to reach the target of 282 runs?

(a) 6.25 (b) 6.5
(c) 6.75 (d) 7

23. Of the three numbers, the average of the first and the second is greater than the average of the second and the third by 15. What is the difference between the first and the third of the three numbers?

(a) 15 (b) 45
(c) 60 (d) None of these

24. The average weight of a Music class of 24 students is 35 kg. If the weight of the teacher be included, the average rises by 400 g. The weight of the Music teacher is:

(a) 45 kg/ कि.ग्रा. (b) 50 kg/ कि.ग्रा.
(c) 53 kg / कि.ग्रा. (d) 55 kg / कि.ग्रा.

25. The captain of a Australian cricket team of 11 members is 26 years old and the wicket keeper is 3 years older than captain. If the ages of these two are excluded, the average age of the remaining players is one year less than the average age of the whole team. What is the average age of the team?

(a) 23 years/ वर्ष (b) 24 years/ वर्ष
(c) 25 years/ वर्ष (d) None of these

SOLUTIONS

1. (d); Let No. of passed candidates are x
So, x * 39 + (120 – x) 15= 120 * 35
x = 100

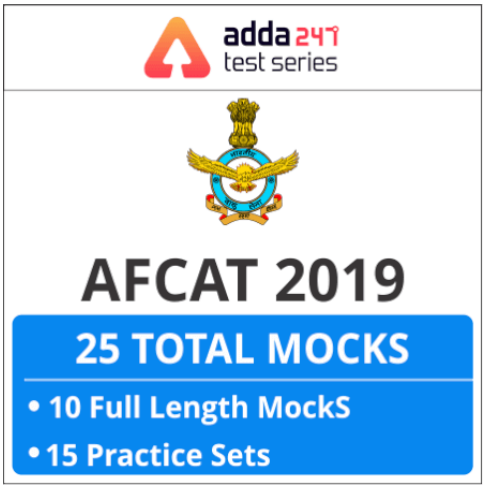
2. (a); Total increase = 8 * 2 = 16 years
So, total age of two women = 35 + 45 +16= 96
Average age of two women=96/2=48 years

3. (d); Total decrease = 20 * 2 = 40 months
= 3 years 4 months
So, age of new boy = 18 years – 3 years 4 months
= 14 years 8 months

4. (a); Average speed = total distance / total time
LCM = 3, 4 = 12
Average speed = 12 / (1/3*12*1/25 + ¼ * 12*1/30 +5/50)
= 12/ (4/25 + 3/30+ 5/30
= 150*12/54 = 33.333 kmph

5. (c); Let no. of non- officers be x
15 * 460 + x * 110 = (x + 15) 120
x = 510

6. (a); Let average expenditure per head be = x
So, (35 + 7) (x -1) – 35 x = 42
42 (x -1) – 35x = 42
x =12
Original expenditure of mess = 12 * 35 = 420



7. (c); A + B + C = 3 *84 = 252
A + B + C + D = 4 * 80 = 320 ---- (i)
So, D = 68& E = 68 + 3 = 71
B + C + D +E = 79 * 4 = 316 --- (ii)
From Eq. (i) & (ii)
A-E = 320 – 316 = 4
A = E +4 = 71 + 4 = 75

8. (b); Let the total no. of candidates = x
So, (50x-100 (90-60)) / x = 45
x = 600

9. (d); Total Sum of 8 nos. = 20 * 8 = 160
Sum of 1st two nos. = 2 * 15.5 = 31
Sum of next three nos. = 3 * 64/3 = 64
Let 6th no. be x
31 + 64 + x + (x+4) + (x+7) = 160
x = 18
8th no. = 18 + 7 = 25

10. (b); Sum of 5 members = 40*5 = 200 years
∴ sum of remaining 4 members = 200 – 35 =165 years
New sum of 5 members = 165+25 = 190 years
∴ Average age of new jury = 190/5 = 38 years

11. (b); The weight of new man = weight of ex person +2.5*8 = 56 + 20 = 76 kg

12. (a); Last year my age was a perfect square number = 25
Next year it will be a cubic number = 27
∴my present age = 26 years

13. (c); Let the average after 16th innings be x, then 16x + 85 = 17 (x + 3) = Total score after 17th innings.
x = 34
Average after 17 innings = x + 3 = 34 + 3 = 37

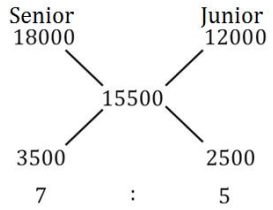
14. (a); Total earning of 8 months $= 600 \times 8 = 4800$
Total earning of remaining 4 months $= \left(600 \times \frac{3}{2}\right) \times 4$
$= 3600$
Total saving of 8 months $= 400 \times 8 = 3200$
Total saving of Remaining 4 months $= \left(400 \times \frac{5}{4}\right) \times 4$
$= 2000$
Total expenditure $= (4800 + 3600) - (3200 + 2000)$
$= 8400 - 5200 = 3200$
Average expenditure $= \frac{3200}{12} = 266.66$

15. (a); $S + C = 35 \times 2 = 70$
$D + C = 32 \times 2 = 64$
$D + S = 38 \times 2 = 76$
So, $S + C + D = \frac{1}{2}(70 + 64 + 76) = 105$
Average age of S, C and D $= \frac{105}{3} = 35$
Average age of Robin and Raghav$=\frac{35}{2} = 17.5$
Required Average $= \frac{105+35}{5} = \frac{140}{5} = 28$

16. (a); Jan + Feb $= 6 \times 2 = 12$
Mar + April + May + Jun $= 5 \times 4 = 20$
July + Aug + Sep + Oct $= 4 \times 10 = 40$
Nov + Dec $= 6 \times 2 = 12$
Req. avg. =(12+20+40+12)*(1/12) = 7

17. (c); Total age of family of 6 members $= 25 \times 6 + 4 \times 6$ = 174
Total age of family of 7 members $= 25 \times 7 = 175$
So, present age of child $= 175 - 174 = 1$ year

18. (b); By Rule of Allegation



Required $= \frac{5}{(7+5)} = \frac{5}{12}$

19. (c); I + II + III $= 83 \times 3 = 249$
III + IV + V $= 97 \times 3 = 291$
I to V $= 92 \times 5 = 460$
III $= 460 - (249 + 291) = 80$

20. (b); $A + B + C + D = 40 \times 4 = 160$
$A + B + C + D + E = 41 \times 5 = 205$
$B + C + D + E + F = 42 \times 5 = 210$
E = 45
B + C + D + F = 210 – 45 = 165
Required average $= \frac{165}{4} = 41.25$

21. (a); Total sale for 5 months = Rs. (6435 + 6927 + 6855 + 7230 + 6562) = Rs. 34009.
∴ Required sale = Rs. [(6500 × 6) - 34009] = Rs. (39000 - 34009) = Rs. 4991.

22. (a); Required run rate $= \frac{282 - (3.2 \times 10)}{40} = \frac{250}{40} = 6.25.$

23. (d); Let the numbers be x, y and z.
Then,
$\left(\frac{x + y}{2}\right) - \left(\frac{y + z}{2}\right) = 15$ or $(x + y) - (y + z)$
$= 30$ or $x - z = 30$.

24. (a); Weight of the teacher = (35.4 × 25 - 35 × 24) kg = 45 kg.

25. (a); Let the average age of the whole team be x years
∴ 11x - (26 + 29) = 9 (x - 1) ⇔ 11x - 9x = 46 ⇔ 2x = 46 ⇔ x = 23.
So, average age of the team is 23 years.