# ARITHMETIC

<1>Ajit has a certain average for 9 innings. In the tenth innings, he scores 100 runs thereby increasing his average by 8 runs. His new average is:

a.20

b.21

c.28

d.32

Answer: c

Explanation:

\*

Let ajit”s average be x for 9 innings. So, Ajit scored 9x run in 9 innings.

  In the 10th inning, he scored 100 runs then average became (x+8). And he scored (x + 8) × 10 runs in 10 innings.

  Now,

 ⇒9x+100=10×(x+8)

 or9x+100=10x+80

 or x=100−80

 or x=20

 New average=(x+8)

 =28runs

 ⇒9x+100=10×(x+8)or,9x+100=10x+80or,x=100−80or,x=20Newaverage=(x+8)=28runs

<2>The average temperature for Wednesday, Thursday and Friday was 40°C. The average for Thursday, Friday and Saturday was 41° C. If temperature on Saturday was 42° C, what was the temperature on Wednesday?

a.39° C

b.44° C

c.38° C

d.41° C

Answer: a

Explanation:

\* Average temperature for Wednesday, Thursday and Friday = 40° C

  Total temperature = 3 × 40 = 120° C

  Average temperature for Thursday, Friday and Saturday = 41° C

  Total temperature = 41 × 3 = 123° C

  Temperature on Saturday = 42° C

  Now,

  (Thursday + Friday + Saturday) - (Wednesday + Thursday + Friday) = 123 - 120;

  Saturday - Wednesday = 3

  Wednesday = 42 - 3 = 39° C

<3>The average of the first five multiples of 9 is:

a.20

b.27

c.28

d.30

Answer: b

Explanation:

 Required average =

 total sum of multiple of 95 =

 9+18+27+36+45

 5 =27

 Required average = total sum of multiple of 95=9+18+27+36+455=27

 Note that, average of 9 and 45 is also 27.

  And average of 18 and 36 is also 27.

<4>The speed of the train going from Nagpur to Allahabad is 100 km/h while when coming back from Allahabad to Nagpur, its speed is 150 km/h. find the average speed during whole journey.

a.125 km/hr

b.75 km/hr

c.135 km/hr

d.120 km/hr

Answer: d

Explanation:

 Average speed,

 =2×x×y x+y

 = 2×100×150 100+150

 = 200×150 250

 =120km/hr

 Average speed,=2×x×yx+y=2×100×150100+150=200×150250=120km/hr

 <5> Find the average of first 97 natural numbers.

a.47

b.37

c.48

d.49

Answer: d

Explanation:

1st Method:

  Average of 1st n natural number is given by

 =

 n×(n+1)

 2

 n

 =n×(n+1)2n

 Average of 1st 97 natural number is given by

 97×(97+1)

 2

 97

 =49

 97×(97+1)297=49

 2st Method:

  These numbers are in AP series so average.

 =

 sum of corresponding term

 2

 =

 1+97

 2

 =49

 or,

 2+96

 2

 =49

 or,

 3+95

 2

 =49

 And so on.

 =sum of corresponding term2=1+972=49or, 2+962=49or, 3+952=49And so on.

<6>The average age of three boys is 15 years. If their ages are in ratio 3 : 5 : 7, the age of the youngest boy is

a.21 years

b.18 years

c.15 years

d.9 years

Answer: d

<7>The average of a group of men is increased by 5 years when a person aged of 18 years is replaced by a new person of aged 38 years. How many men are there in the group?

a.3

b.4

c.5

d.6

Answer: b

<8>In a boat there are 8 men whose average weight is increased by 1 kg when 1 man of 60 kg is replaced by a new man. What is weight of new comer?

a.70 years

b. 66 years

c.68 years

d.69 years

Answer: c

<9>The average of 25 results is 18. The average of first 12 of those is 14 and the average of last 12 is 17. What is the 13th result?

a.74

b.75

C.69

D.78

Answer: d

<10>A train covers the first 16 km at a speed of 20 km per hour another 20 km at 40 km per hour and the last 10 km at 15 km per hour. Find the average speed for the entire journey.

a.24 km

b.26 km

c.21 km

d.23 Km

Answer: d