10. A is 20 percent more efficient than B. If the two person can complete a piece of work in 60 days. In how many days A can complete the work working alone?

Answer: 110 days

Explanation:

A is 20% more efficient than B, So if B per day work is 100 units then A will be 120.

Both persons together completes (100 + 120) units

= 220 units a day.

They took 60 days to complete the work.

Total work = (60 * 220)

If A alone set to complete the work, he takes = (60 * 220) / 120

= 110 days

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11. The wages of 24 men and 16 women amount to 11600 per day. Half the number of men and 37 women has same money. What is the daily wages paid to each man?

Answer: 350

Explanation:

24M + 16W = 11600

12M + 37W = 11600

Solving we get 12M = 21W

Substituting in the first equation we get, 42W + 16W = 11600

⇒ W = 200

Again substituting, M = 350

8. Average of 6 numbers is 8, what number should be added to it to make the average 9?

Answer: 15

Explanation:

Average of 6 numbers = 8

∴ Total of 6 numbers = 6 * 8

= 48

Let the required number be x.

[(48 + x) / (6 + 1)] = 9

48 + x = 63

x = 63 - 48

= 15

---

9. The average marks obtained by some students in an examination is 54. If 20% of the students got a mean score of 90 marks and the 30% of the students got a mean score of 20. Find the average marks of the remaining students?

Answer: 60 marks

Explanation:

Remaining students = 100% - 20% - 30% = 50%

Let remaining students got a mean score of x marks.

20% of 90 + 30% of 20 + 50% of x = 54

∴ 18 + 6 + 50% of x = 54

∴ 50% of x = 54 - 18 - 6

= 30

∴ x = 30 * (100 / 50)

= 60 marks

Average

1. A pupils marks were wrongly entered as 83 instead of 63. Due to that the average marks for the class got increased by half. The number of pupils in the class?

Answer: 40

Explanation:

Let there be x pupils in the class.

Total increase in marks = [x * (1 / 2)]

= x / 2

x / 2 = (83 - 63)

⇒ x / 2 = 20

⇒ x = 40

---

2. A car covers 4 successive 3km stretches at speed of 10kmph, 20kmph, 30kmph and 60kmph resp. Find the average speed?

Answer: 20 kmph

Explanation:

Average speed = Total distance / Total time

Total distance = 4 * 3

= 12 km

Total time = (3 / 10) + (3 / 20) + (3 / 30) + (3 / 60)

= (36 / 60)hr

speed = 12 / (36 * 60)

= 20 kmph

---

3. The average weight of 16 boys in a class is 50.25 kg and that of the remaining 8 boys is 45.15 kg. Find the average weights of all the boys in the class?

3. The average weight of 16 boys in a class is 50.25 kg and that of the remaining 8 boys is 45.15 kg. Find the average weights of all the boys in the class?

Answer: 48.55

Explanation:

Required average = [(50.25 * 16) + (45.15 * 8) / (16 + 8)]

= (804 + 361.20) / 24

= 1165.20 / 24

= 48.55

---

4. If the average of five numbers is 10 and the sum of three numbers is 16, then what is the average of the other two numbers?

Answer: 17

Explanation:

Let the five numbers be a, b, c, d, e.

Average of (a + b + c + d + e) / 5 = 10

Sum of three numbers = a + b + c

= 16

⇒ (16 + d + e) / 5 = 10

16 + d + e = 50

d + e = 34

average of (d + e) = 34 / 2

= 17

Time and Work

1. 8 men can dig a pit in 20 days. If a man works half as much again as a boy, then 4 men and 9 boys can dig a similar pit. Find the days for 15 boys can dig?

Answer: 16 days

Explanation:

1 man = 3 / 2 boys

(4 men + 9 boys) = 15 boys

8 men = [(3 / 2) * 8]

= 12 boys

Now, 12 boys can dig the pit in 20 days.

15 boys can dig = [(20 * 12) / 15]

= 16 days

---

2. A is twice as good a workman as B and together they finish a piece of work in 18 days. In how many days will A alone finish the work?

Answer: 27 days

Explanation:

If A takes x days to do a work then B takes 2x days to do the same work.

∴ (1 / x) + (1 / 2x) = 1 / 18

3 / 2x = 1 / 18

x = 27 days

A alone can finish the work in 27 days.

---

3. If Ram and Gohul can do a job in 10 days and 15 days independently, How many days would they take to complete the same job working simultaneously?

Answer: 6 Days

6. A library has an average of 510 visitors on Sundays and 240 on other day. As the month begin with sunday. The average number of visitors in a month of 30 days starting with sunday?

Answer: 285

Explanation:

The month begin with sunday, so there will be five sundays in the month.

= [(510 * 5) + (240 * 25) / 30]

= (8550 / 30)

= 285

---

7. There are two divisions A and B of a class, consisting of 36 and 44 students respectively. If the average weight of divisions A is 40 kg and that of division b is 35 kg. What is the average weight of the whole class?

Answer: 37.25

Explanation:

Total weight of students in division A = 36 * 40

Total weight of students in division B = 44 * 35

Total students = 36 + 44

= 80

Average weight of the whole class = [(36 * 40) + (44 * 35)] / 80

= (1440 + 1540) / 80

= 2980 / 80

= 149 / 4

= 37.25

8. Ravi gets Rs. 110 for every day that he works. If he earns Rs. 2750 in a month of 31 days, for how many days did he work?
Answer: 25 days
Explanation:
Required number of days = (2750 / 110)
= 25 days

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9. 12 persons can complete the work in 18 days. After working for 6 days, 4 more persons added to complete the work fast. In how many more days they will complete the work?
Answer: 9 days
Explanation:
Total work = 12 * 18 = 216 units
After 6 days, work finished = 6 * 12 = 72 units
Remaining work = 216 - 72
= 144 units
Remaining days = 144 / (12 + 4)
Answer is 9 days

---

10. A is 20 percent more efficient than B. If the two person can complete a piece of work in 60 days. In how many days A can complete the work working alone?
Answer: 110 days

33. The average salary per month of 30 employees in a company is Rs 4000. If the manager's salary is added, the average salary increases to Rs. 4300, what is the salary of the manager?

Answer: Rs. 13300

Explanation:

Salary of the manager = (31 * 4300) - (30 * 4000)

= 133300 - 120000

= Rs. 13300

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34. Find the average of first 40 natural numbers?

Answer: 20.5

Explanation:

Sum of first n natural numbers = (n * (n + 1)) / 2

Sum of first 40 natural numbers = (40 * 41) / 2

= 1640 / 2

= 820

Required average = 820 / 40

= 20.5

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35. The average of first ten prime numbers which are odd is ?

Answer: 15.8

Explanation:

Sum of first 10 prime number, which are odd = (3 + 5 + 7 + 11 + 13 + 17 + 19 + 23 + 29 + 31)

= 158

Average = 158 / 10

= 15.8

Amount of work P can do in 1 day = 1 / 16
Amount of work Q can do in 1 day = 1 / 12
Amount of work P, Q and R can together do in 1 day = 1 / 4
Amount of work R can do in 1 day = 1 / 4 - (1 / 16 + 1 / 12)
= 3 / 16 - 1 / 12
= 5 / 48
⇒ Hence R can do the job on 48 / 5 days = 9 * (3 / 5) days

---

6. A and B can do a work in 5 days. A alone can do the same work in 8 days. In how many days will B do the same work?
Answer: 13 * (1 / 3) days
Explanation:
Work done by A and B together = 1 / 5
Work done by A alone = 1 / 8
Work done by B alone = (1 / 5) - (1 / 8)
= 3 / 40
Hence B alone can complete the work in 40 / 3 = 13 * (1 / 3) days

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7. An industrial loom weaves 0.135 metres of cloth every second. How many seconds will it take for the loom to weave 27 metres of cloth?
Answer: 200 sec
Explanation:
Let the required time be x seconds, then, more metres, more time (Direct proportion)
∴ 0.135 : 27 : : 1 : x
0.135 * x = 27 * 1
⇒ x = 27 / 0.135

Answer: 6 Days
Explanation:
If total work is X.
Ram rate of working = X / 10 per day.
Gohul rate of working = X / 15 per day.
Rate of work = (X / 10) + (X / 15)
Working days = X / [(X / 10) + (X / 15)]
= 30X / 5X
= 6 Days

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4. 4 men can check exam papers in 8 days working 5 hours regularly. What is the total hours when 2 men will check the double of the papers in 20 days?
Answer: 8 hours
Explanation:
Let a man can do 1 unit of work in 1 hour.
Total units of work = 4 * 8 * 5 = 160 units.
Now work = 2 * 160 = 320 units.
Now 2 men work for 20 days. Let in x hours they have to work per day.
Now total work = 2 * x * 20 = 40 x
40x = 320
x = 320/40
= 8 hours

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5. P can lay railway track between two stations in 16 days. Q can do the same job in 12 days. With the help of R, they completes the job in 4 days. How much days does it take for R alone to complete the work?
Answer: 9 * (3 / 5) days