

Q1. P is able to do a piece of work in 15 days and Q can do the same work in 20 days. If they can work together for 4 days, what is the fraction of work left?

- A. $8/15$
- B. $7/15$
- C. $11/15$
- D. $2/11$

ANS: A

Explanation:

Amount of work P can do in 1 day = $1/15$

Amount of work Q can do in 1 day = $1/20$

Amount of work P and Q can do in 1 day = $1/15 + 1/20 = 7/60$

Amount of work P and Q can together do in 4 days = $4 \times (7/60) = 7/15$

Fraction of work left = $1 - 7/15 = 8/15$

Q2. 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 complete the job in 4 days. How much days does it take for R alone to complete the work?

- A. $9(3/5)$ days
- B. $9(1/5)$ days
- C. $9(2/5)$ days
- D. 10 days

ANS: A

Explanation:

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 = $9 \frac{3}{5}$ days

Q3. P, Q and R can do a work in 20, 30 and 60 days respectively. How many days does it need to complete the work if P does the work and he is assisted by Q and R on every third day?

- A. 10 days
- B. 14 days
- C. 15 days
- D. 9 days

ANS: C

Explanation:

Amount of work P can do in 1 day = $1/20$

Amount of work Q can do in 1 day = $1/30$

Amount of work R can do in 1 day = $1/60$

P is working alone and every third day Q and R is helping him

Work completed in every three days = $2 \times (1/20) + (1/20 + 1/30 + 1/60) = 1/5$

So work completed in 15 days = $5 \times 1/5 = 1$

Ie, the work will be done in 15 days

Q4. A is thrice as good as B in work. A is able to finish a job in 60 days less than B. They can finish the work in - days if they work together.

- A. 18 days
- B. $22 \frac{1}{2}$ days
- C. 24 days
- D. 26 days

ANS: B

Explanation:

If A completes a work in 1 day, B completes the same work in 3 days

Hence, if the difference is 2 days, B can complete the work in 3 days

=> if the difference is 60 days, B can complete the work in 90 days

=> Amount of work B can do in 1 day = $1/90$

Amount of work A can do in 1 day = $3 \times (1/90) = 1/30$

Amount of work A and B can together do in 1 day = $1/90 + 1/30 = 4/90 = 2/45$

=> A and B together can do the work in $45/2$ days = $22\frac{1}{2}$ days

Q5. A can do a particular work in 6 days . B can do the same work in 8 days. A and B signed to do it for Rs. 3200. They completed the work in 3 days with the help of C. How much is to be paid to C?

- A. Rs. 380
- B. Rs. 600
- C. Rs. 420
- D. Rs. 400

ANS: D

Explanation:

Amount of work A can do in 1 day = $1/6$

Amount of work B can do in 1 day = $1/8$

Amount of work A + B can do in 1 day = $1/6 + 1/8 = 7/24$

Amount of work A + B + C can do = $1/3$

Amount of work C can do in 1 day = $1/3 - 7/24 = 1/24$

work A can do in 1 day: work B can do in 1 day: work C can do in 1 day

= $1/6 : 1/8 : 1/24 = 4 : 3 : 1$

Amount to be paid to C = $3200 \times (1/8) = 400$

Q6. 6 men and 8 women can complete a work in 10 days. 26 men and 48 women can finish the same work in 2 days. 15 men and 20 women can do the same work in - days.

- A. 4 days
- B. 6 days
- C. 2 days

D. 8 days

ANS: A

Explanation:

Let work done by 1 man in 1 day = m and work done by 1 woman in 1 day = b

Work done by 6 men and 8 women in 1 day = $1/10$

$$\Rightarrow 6m + 8b = 1/10$$

$$\Rightarrow 60m + 80b = 1 \text{ --- (1)}$$

Work done by 26 men and 48 women in 1 day = $1/2$

$$\Rightarrow 26m + 48b = 1/2$$

$$\Rightarrow 52m + 96b = 1 \text{ --- (2)}$$

Solving equation 1 and equation 2. We get $m = 1/100$ and $b = 1/200$

Work done by 15 men and 20 women in 1 day

$$= 15/100 + 20/200 = 1/4$$

\Rightarrow Time taken by 15 men and 20 women in doing the work = 4 days

Q7. A can do a piece of work in 4 hours . A and C together can do it in just 2 hours, while B and C together need 3 hours to finish the same work. B alone can complete the work in --- hours.

A. 12 hours

B. 6 hours

C. 8 hours

D. 10 hours

ANS: A

Explanation:

Work done by A in 1 hour = $1/4$

Work done by B and C in 1 hour = $1/3$

Work done by A and C in 1 hour = $1/2$

Work done by A,B and C in 1 hour = $1/4+1/3 = 7/12$

Work done by B in 1 hour = $7/12 - 1/2 = 1/12 \Rightarrow$ B alone can complete the work in 12 hours.

Q8. P can do a work in the same time in which Q and R together can do it. If P and Q work together, the work can be completed in 10 days. R alone needs 50 days to complete the same work. then Q alone can do it in

- A. 30 days
- B. 25 days
- C. 20 days
- D. 15 days

ANS: B

Explanation:

Work done by P and Q in 1 day = $1/10$

Work done by R in 1 day = $1/50$

Work done by P, Q and R in 1 day = $1/10 + 1/50 = 6/50$

But Work done by P in 1 day = Work done by Q and R in 1 day . Hence the above equation can be written as

Work done by P in 1 day $\times 2 = 6/50$

\Rightarrow Work done by P in 1 day = $3/50$

\Rightarrow Work done by Q and R in 1 day = $3/50$

Hence work done by Q in 1 day = $3/50 - 1/50 = 2/50 = 1/25$

So Q alone can do the work in 25 days.

Q9. A completes 80% of a work in 20 days. Then B also joins and A and B together finish the remaining work in 3 days. How long does it need for B if he alone completes the work?

- A. $37 \frac{1}{2}$ days
- B. 22 days
- C. 31 days

D. 22 days

ANS: A

Explanation:

Work done by A in 20 days = $80/100 = 8/10 = 4/5$

Work done by A in 1 day = $(4/5) / 20 = 4/100 = 1/25$ --- (1)

Work done by A and B in 3 days = $20/100 = 1/5$ (Because remaining 20% is done in 3 days by A and B)

Work done by A and B in 1 day = $1/15$ ---(2)

Work done by B in 1 day = $1/15 - 1/25 = 2/75$

=> B can complete the work in $75/2$ days = $37 \frac{1}{2}$ days

Q10. Machine P can print one lakh books in 8 hours. Machine Q can print the same number of books in 10 hours while machine R can print the same in 12 hours. All the machines started printing at 9 A.M. Machine P is stopped at 11 A.M. and the remaining two machines complete work. Approximately at what time will the printing of one lakh books be completed?

- A. 3 pm
- B. 2 pm
- C. 1:00 pm
- D. 11 am

ANS: C

Explanation:

Work done by P in 1 hour = $1/8$

Work done by Q in 1 hour = $1/10$

Work done by R in 1 hour = $1/12$

Work done by P,Q and R in 1 hour = $1/8 + 1/10 + 1/12 = 37/120$

Work done by Q and R in 1 hour = $1/10 + 1/12 = 22/120 = 11/60$

From 9 am to 11 am, all the machines were operating.

Ie, they all operated for 2 hours and work completed = $2 \times (37/120) = 37/60$

Pending work = $1 - 37/60 = 23/60$

Hours taken by Q and R to complete the pending work = $(23/60) / (11/60) = 23/11$ which is approximately equal to 2 Hence the work will be completed approximately 2 hours after 11 am ; ie around 1 pm

Q11. P can finish a work in 18 days. Q can finish the same work in 15 days. Q worked for 10 days and left the job. how many days does P alone need to finish the remaining work?

- A. 8
- B. 5
- C. 4
- D. 6

ANS: D

Explanation:

Work done by P in 1 day = $1/18$

Work done by Q in 1 day = $1/15$

Work done by Q in 10 days = $10/15 = 2/3$

Remaining work = $1 - 2/3 = 1/3$

Number of days in which P can finish the remaining work = $(1/3) / (1/18) = 6$

Q12. 3 men and 7 women can complete a work in 10 days . But 4 men and 6 women need 8 days to complete the same work . In how many days will 10 women complete the same work?

- A. 50
- B. 40
- C. 30
- D. 20

ANS: B

Explanation:

Work done by 4 men and 6 women in 1 day = $1/8$

Work done by 3 men and 7 women in 1 day = $1/10$

Let 1 man does m work in 1 day and 1 woman does w work in 1 day. The above equations can be written as

$$4m + 6w = 1/8 \text{ ---(1)}$$

$$3m + 7w = 1/10 \text{ ---(2)}$$

Solving equation (1) and (2) , we get $m=11/400$ and $w=1/400$

Amount of work 10 women can do in a day = $10 \times (1/400) = 1/40$

Ie, 10 women can complete the work in 40 days

Q13. A and B can finish a work 30 days if they work together. They worked together for 20 days and then B left. A finished the remaining work in another 20 days. In how many days A alone can finish the work?

- A. 60
- B. 50
- C. 40
- D. 30

ANS: A

Explanation:

Amount of work done by A and B in 1 day = $1/30$

Amount of work done by A and B in 20 days = $20 \times (1/30) = 20/30 = 2/3$

Remaining work = $1 - 2/3 = 1/3$

A completes $1/3$ work in 20 days

Amount of work A can do in 1 day = $(1/3)/20 = 1/60$

=> A can complete the work in 60 days

Q14. A can complete a work in 12 days with a working of 8 hours per day. B can complete the same work in 8 days when working 10 hours a day. If A and B work together, working 8 hours a day, the work can be completed in --- days.

- A. $5 \frac{5}{11}$
- B. $4 \frac{5}{11}$
- C. $6 \frac{4}{11}$
- D. $6 \frac{5}{11}$

ANS: A

Explanation:

A can complete the work in 12 days working 8 hours a day

=> Number of hours A can complete the work = $12 \times 8 = 96$ hours

=> Work done by A in 1 hour = $1/96$

B can complete the work in 8 days working 10 hours a day

=> Number of hours B can complete the work = $8 \times 10 = 80$ hours

=> Work done by B in 1 hour = $1/80$

Work done by A and B in 1 hour = $1/96 + 1/80 = 11/480$

=> A and B can complete the work in $480/11$ hours

A and B works 8 hours a day

Hence total days to complete the work with A and B working together

$$= (480/11) / (8) = 60/11 \text{ days} = 5 \frac{5}{11} \text{ days}$$

Q15. P is 30% more efficient than Q. P can complete a work in 23 days. If P and Q work together, how much time will it take to complete the same work?

- A. 9
- B. 11
- C. 13
- D. 15

ANS: C

Explanation:

Work done by P in 1 day = $1/23$

Let work done by Q in 1 day = q

$$q \times (130/100) = 1/23$$

$$\Rightarrow q = 100/(23 \times 130) = 10/(23 \times 13)$$

$$\text{Work done by P and Q in 1 day} = 1/23 + 10/(23 \times 13) = 23/(23 \times 13) = 1/13$$

\Rightarrow P and Q together can do the work in 13 days

Q16. P, Q and R can complete a work in 24, 6 and 12 days respectively. The work will be completed in --- days if all of them are working together.

- A. 2
- B. $3 \frac{3}{7}$
- C. $4 \frac{1}{4}$
- D. 5

ANS: B

Explanation:

Work done by P in 1 day = $1/24$

Work done by Q in 1 day = $1/6$

Work done by R in 1 day = $1/12$

$$\text{Work done by P, Q and R in 1 day} = 1/24 + 1/6 + 1/12 = 7/24$$

\Rightarrow Working together, they will complete the work in $24/7$ days = $3 \frac{3}{7}$ days

Q17. 10 men can complete a work in 7 days. But 10 women need 14 days to complete the same work. How many days will 5 men and 10 women need to complete the work?

- A. 5

- B. 6
- C. 7
- D. 8

ANS: C

Explanation:

Work done by 10 men in 1 day = $1/7$

Work done by 1 man in 1 day = $(1/7)/10 = 1/70$

Work done by 10 women in 1 day = $1/14$

Work done by 1 woman in 1 day = $1/140$

Work done by 5 men and 10 women in 1 day = $5 \times (1/70) + 10 \times (1/140)$

= $5/70 + 10/140 = 1/7$

=> 5 men and 10 women can complete the work in 7 days

Q18. Kamal will complete work in 20 days. If Suresh is 25% more efficient than Kamal, he can complete the work in --- days.

- A. 14
- B. 16
- C. 18
- D. 20

ANS: B

Explanation:

Work done by Kamal in 1 day = $1/20$

Work done by Suresh in 1 day = $(1/20) \times (125/100) = 5/80 = 1/16$

=> Suresh can complete the work in 16 days

Q19. Anil and Suresh are working on a special assignment. Anil needs 6 hours to type 32 pages on a computer and Suresh needs 5 hours to type 40 pages. If both of them work together on two different computers, how much time is needed to type an assignment of 110 pages?

- A. 7 hour 15 minutes
- B. 7 hour 30 minutes
- C. 8 hour 15 minutes
- D. 8 hour 30 minutes

ANS: C

Explanation:

Pages typed by Anil in 1 hour = $32/6 = 16/3$

Pages typed by Suresh in 1 hour = $40/5 = 8$

Pages typed by Anil and Suresh in 1 hour = $16/3 + 8 = 40/3$

Time taken to type 110 pages when Anil and Suresh work together = $110 \times 3/40 = 33/4$
= $8 \frac{1}{4}$ hours = 8 hour 15 minutes

Q20. P and Q can complete a work in 20 days and 12 days respectively. P alone started the work and Q joined him after 4 days till the completion of the work. How long did the work last?

- A. 5 days
- B. 10 days
- C. 14 days
- D. 22 days

ANS: B

Explanation:

Work done by P in 1 day = $1/20$

Work done by Q in 1 day = $1/12$

Work done by P in 4 days = $4 \times (1/20) = 1/5$

Remaining work = $1 - 1/5 = 4/5$

Work done by P and Q in 1 day = $1/20 + 1/12 = 8/60 = 2/15$

Number of days P and Q take to complete the remaining work = $(4/5) / (2/15) = 6$

Total days = $4 + 6 = 10$

Q21. P takes twice as much time as Q or thrice as much time as R to finish a piece of work. They can finish the work in 2 days if work together. How much time will Q take to do the work alone?

- A. 4
- B. 5
- C. 6
- D. 7

ANS: C

Explanation:

Let P takes x days to complete the work

Then Q takes $x/2$ days and R takes $x/3$ days to finish the work

Amount of work P does in 1 day = $1/x$

Amount of work Q does in 1 day = $2/x$

Amount of work R does in 1 day = $3/x$

Amount of work P, Q and R do in 1 day = $1/x + 2/x + 3/x = 1/x (1 + 2 + 3) = 6/x$

$$6/x = 2$$

$$\Rightarrow x = 12$$

\Rightarrow Q takes $12/2$ days = 6 days to complete the work.

Q22. P and Q can complete a work in 15 days and 10 days respectively. They started the work together and then Q left after 2 days. P alone completed the remaining work. The work was finished in --- days.

A. 12

B. 16

C. 20

D. 24

ANS: A

Explanation:

Work done by P in 1 day = $1/15$

Work done by Q in 1 day = $1/10$

Work done by P and Q in 1 day = $1/15 + 1/10 = 1/6$

Work done by P and Q in 2 days = $2 \times (1/6) = 1/3$

Remaining work = $1 - 1/3 = 2/3$

Time taken by P to complete the remaining work $2/3 = (2/3) / (1/15) = 10$ days

Total time taken = $2 + 10 = 12$ days

Q23. P and Q can do a work in 30 days. Q and R can do the same work in 24 days and R and P in 20 days. They started the work together, but Q and R left after 10 days. How many days more will P take to finish the work?

A. 10

B. 15

C. 18

D. 22

ANS: C

Explanation:

Let work done by P in 1 day = p,

Work done by Q in 1 day = q,

Work done by R in 1 day = r

$$p + q = 1/30$$

$$q + r = 1/24$$

$$r + p = 1/20$$

$$\text{Adding all the above, } 2p + 2q + 2r = 1/30 + 1/24 + 1/20 = 15/120 = 1/8$$

$$\Rightarrow p + q + r = 1/16$$

$$\Rightarrow \text{Work done by P, Q and R in 1 day} = 1/16$$

$$\text{Work done by P, Q and R in 10 days} = 10 \times (1/16) = 10/16 = 5/8$$

$$\text{Remaining work} = 1 - 5/8 = 3/8$$

$$\text{Work done by P in 1 day} = \text{Work done by P, Q and R in 1 day} - \text{Work done by Q and R in 1 day}$$

$$= 1/16 - 1/24 = 1/48$$

$$\text{Number of days P needs to work to complete the remaining work} = (3/8) / (1/48) = 18$$

Q24. P works twice as fast as Q. If Q alone can complete a work in 12 days, P and Q can finish the work in --- days

- A. 1
- B. 2
- C. 3
- D. 4

ANS: D

Explanation:

$$\text{Work done by Q in 1 day} = 1/12$$

$$\text{Work done by P in 1 day} = 2 \times (1/12) = 1/6$$

$$\text{Work done by P and Q in 1 day} = 1/12 + 1/6 = 1/4$$

$$\Rightarrow \text{P and Q can finish the work in 4 days}$$

Q25. A work can be finished in 16 days by twenty women. The same work can be finished in fifteen days by sixteen men. The ratio between the capacity of a man and a woman is

- A. 1:3
- B. 4:3
- C. 2:3
- D. 2:1

ANS: B

Explanation:

$$\text{Work done by 20 women in 1 day} = 1/16$$

$$\text{Work done by 1 woman in 1 day} = 1/(16 \times 20)$$

$$\text{Work done by 16 men in 1 day} = 1/15$$

$$\text{Work done by 1 man in 1 day} = 1/(15 \times 16)$$

$$\text{Ratio of the capacity of a man and woman} = 1/(15 \times 16) : 1/(16 \times 20) = 1/15 : 1/20$$

$$= 1/3 : 1/4 = 4:3$$

Q26. P and Q need 8 days to complete a work. Q and R need 12 days to complete the same work. But P, Q and R together can finish it in 6 days. How many days will be needed if P and R together do it?

- A. 3
- B. 8
- C. 12
- D. 4

ANS: B

Explanation:

Let work done by P in 1 day = p
work done by Q in 1 day = q
Work done by R in 1 day = r
 $p + q = 1/8$ ---(1)
 $q + r = 1/12$ ---(2)
 $p + q + r = 1/6$ ---(3)
 $(3) - (2) \Rightarrow p = 1/6 - 1/12 = 1/12$
 $(3) - (1) \Rightarrow r = 1/6 - 1/8 = 1/24$
 $p + r = 1/12 + 1/24 = 3/24 = 1/8$
 \Rightarrow P and R will finish the work in 8 days

Q27. P can do a work in 24 days. Q can do the same work in 9 days and R can do the same in 12 days. Q and R start the work and leave after 3 days. P finishes the remaining work in --- days.

- A. 7
- B. 8
- C. 9
- D. 10

ANS: D

Explanation:

Work done by P in 1 day = $1/24$
Work done by Q in 1 day = $1/9$
Work done by R in 1 day = $1/12$
Work done by Q and R in 1 day = $1/9 + 1/12 = 7/36$
Work done by Q and R in 3 days = $3 \times 7/36 = 7/12$
Remaining work = $1 - 7/12 = 5/12$

Number of days in which P can finish the remaining work = $(5/12) / (1/24) = 10$

Q28. If daily wages of a man is double to that of a woman, how many men should work for 25 days to earn Rs.14400? Given that wages for 40 women for 30 days are Rs.21600.

- A. 12
- B. 14
- C. 16
- D. 18

ANS: C

Explanation:

Wages of 1 woman for 1 day = $21600/40 \times 30$

Wages of 1 man for 1 day = $21600 \times 2/40 \times 30$

Wages of 1 man for 25 days = $21600 \times 2 \times 25/40 \times 30$

Number of men = $14400 / (21600 \times 2 \times 25/40 \times 30) = 144 / (216 \times 50/40 \times 30) = 144/9 = 16$

Q29. P,Q and R together earn Rs.1620 in 9 days. P and R can earn Rs.600 in 5 days. Q and R in 7 days can earn Rs.910. How much amount does R can earn per day?

- A. Rs.40
- B. Rs.70
- C. Rs.90
- D. Rs.100

ANS: B

Explanation:

Amount Earned by P,Q and R in 1 day = $1620/9 = 180$ ---(1)

Amount Earned by P and R in 1 day = $600/5 = 120$ ---(2)

Amount Earned by Q and R in 1 day = $910/7 = 130$ ---(3)

(2)+(3)-(1) => Amount Earned by P , Q and 2R in 1 day

- Amount Earned by P,Q and R in 1 day = $120+130-180 = 70$

=>Amount Earned by R in 1 day = 70

Q30. Assume that 20 cows and 40 goats can be kept for 10 days for Rs.460. If the cost of keeping 5 goats is the same as the cost of keeping 1 cow, what will be the cost for keeping 50 cows and 30 goats for 12 days?

- A. Rs.1104

- B. Rs.1000
- C. Rs.934
- D. Rs.1210

ANS: A

Explanation:

Assume that cost of keeping a cow for 1 day = c ,
cost of keeping a goat for 1 day = g
Cost of keeping 20 cows and 40 goats for 10 days = 460
Cost of keeping 20 cows and 40 goats for 1 day = $460/10 = 46$
 $\Rightarrow 20c + 40g = 46$
 $\Rightarrow 10c + 20g = 23$ ---(1)
Given that $5g = c$
Hence equation (1) can be written as $10c + 4c = 23 \Rightarrow 14c = 23$
 $\Rightarrow c = 23/14$
cost of keeping 50 cows and 30 goats for 1 day
 $= 50c + 30g$
 $= 50c + 6c$ (substituted $5g = c$)
 $= 56c = 56 \times 23/14$
 $= 92$
Cost of keeping 50 cows and 30 goats for 12 days = $12 \times 92 = 1104$

Q31. There is a group of persons each of whom can complete a piece of work in 16 days, when they are working individually. On the first day one person works, on the second day another person joins him, on the third day one more person joins them and this process continues till the work is completed. How many days are needed to complete the work?

- A. $3 \frac{1}{4}$ days
- B. $4 \frac{1}{3}$ days
- C. $5 \frac{1}{6}$ days
- D. $6 \frac{1}{5}$ days

ANS: C

Explanation:

Work completed in 1st day = $1/16$
Work completed in 2nd day = $(1/16) + (1/16) = 2/16$
Work completed in 3rd day = $(1/16) + (1/16) + (1/16) = 3/16$
...

An easy way to attack such problems is from the choices. You can see the choices are

very close to each other. So just see one by one.

For instance, The first choice given in $3 \frac{1}{4}$

The work done in 3 days = $\frac{1}{16} + \frac{2}{16} + \frac{3}{16} = \frac{(1+2+3)}{16} = \frac{6}{16}$

The work done in 4 days = $\frac{(1+2+3+4)}{16} = \frac{10}{16}$

The work done in 5 days = $\frac{(1+2+3+4+5)}{16} = \frac{15}{16}$, almost close, isn't it?

The work done in 6 days = $\frac{(1+2+3+4+5+6)}{16} > 1$

Hence the answer is less than 6, but greater than 5. Hence the answer is $5 \frac{1}{6}$ days.

(Just for your reference, work done in 5 days = $\frac{15}{16}$.)

Pending work in 6th day = $1 - \frac{15}{16} = \frac{1}{16}$.

In 6th day, 6 people are working and work done = $\frac{6}{16}$.

To complete the work $\frac{1}{16}$, time required = $\frac{(1/16)}{(6/16)} = \frac{1}{6}$ days.

Hence total time required = $5 + \frac{1}{6} = 5 \frac{1}{6}$ days)