



Date : 14th Jan 2024

Quantitative Aptitude - Time and Work

English

Q:1 80 men are assigned a work to be completed in 120 days. But after 50 days, n men leave the work as a result of which the work gets completed in 162 days. Find n .

1. 24
2. 20
3. 25
4. 30

Q:2 9 men join together to complete a work in 5 days. After working for 3 days, n men leave the group, due to which the number of days taken to complete the work increases by 7. What is the value of ' n '?

1. 3
2. 5
3. 7
4. 6

Q:3 Vinay can do the work in 15 days and Sanjay can do the same work in 10 days. They start working together and Vinay left after some days. After that Sanjay work alone and complete the remaining work in 5 days. After how many days did Vinay leave work?

1. 5 days
2. 3 days
3. 2 days
4. 8 days

Q:4 10 men can do a piece of work in 8 days, while 25 children do the same work in 32 days. If the efficiency of a woman is twice that of a child, then in how many days will 3 men, 3 women, and 4 children together complete the same work?

1. 25 days
2. 16 days
3. 20 days
4. 24 days

Q:5 Raj can do certain work in 24 days. The same work can be done by Lakhan in 32 days. Find the days taken to do the work if they both work together.

1. 21.1 days
2. 20.5 days
3. 13.7 days
4. 15.3 days

Q:6 If 10 men take 22 days to complete a job, in how many days can 16 men finish that work?

1. 13.75 days

2. 12.25 days

3. 15.80 days

4. 17 days

Q:7 20 men building a wall at a rate of 10 hours per day can be completed in 12 days. What would be the number of days taken by 25 men at 6 hours per day to build it?

1. 10
2. 14
3. 15.8
4. 16

Q:8 P can build a wall in 15 days, Q can build the same wall in 18 days, and R can build in 27 days. If they work together in how many days they will build a wall?

1. 7.8 days
2. 6.3 days
3. 9.4 days
4. 12.5 days

Q:9 Shyam, Mohan and Jatin can complete a work in 24 days, 30 days and 40 days respectively. They started working together. After 5 days, Shyam leaves work and Jatin leaves when 1 day of work remains, according to Mohan. Find the total time taken to complete the work.

1. 10 Days
2. 12 Days
3. 11 Days
4. 14 Days

Q:10 Two people P and Q started the work, P can complete the work in 18 days and Q can complete the work in 24 days. They both started working together, after 6 days P left the job. What is the number of days required to complete the job?

1. 16 days
2. 18.5 days
3. 22 days
4. 12 days



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Answer Key

1. (4)	2. (3)	3. (2)	4. (3)	5. (3)
6. (1)	7. (4)	8. (2)	9. (4)	10. (1)

Answers and Solutions

Q:1 The correct answer is **option 4** i.e. **30**.

Let total work be = $120 \times 80 = 9600$ units

Work done in first 50 days = $50 \times 80 = 4000$ units

Remaining work = $9600 - 4000 = 5600$ units

Time taken to do the remaining work = $162 - 50 = 112$ days.

Men required to do 5600 units in 112 days = $5600/112 = 50$

Hence, Number of men who left work = $80 - 50 = 30$

Q:2 The correct answer is **option 3** i.e. **7**.

9 men join together to complete a work in 5 days

So, the total work = $9 \times 5 = 45$ unit

They can work for 3 days

So, the total work in 3 days by 9 men = $9 \times 3 = 27$

Remaining work = $45 - 27 = 18$ unit

Remaining days = 2 days

Now, according to the question,

$(9 - n)$ men complete the remaining work

So,

$18/(9 - n) = (2 + 7)$ days

$18/(9 - n) = 9$

$2 = 9 - n$

$n = 7$ men

Q:3 The correct answer is **Option 2** i.e. **3 days**

Let the total work = LCM (15, 10) = 30 units

Efficiency of Vinay = $30/15 = 2$ units/day

Efficiency of Sanjay = $30/10 = 3$ units/day

Now, according to question,

Let's assume they worked together for x days.

\Rightarrow Total work done by them = $(3 + 2)x = 5x$ units

\Rightarrow Remaining work = $30 - 5x$ units

Sanjay completed it in 5 more days.

$\Rightarrow (30 - 5x)/3 = 5$

$\Rightarrow 30 - 5x = 15$

$\Rightarrow x = 15/5 = 3$

So, Vinay left the work after 3 days.

Q:4 The correct answer is **Option 3** i.e. **20 days**.

Total work = efficiency \times time

Let the efficiency of a man = M and the efficiency of a child = C

So, the total work by 10 men = $10M \times 8 = 80M$

The total work done by 25 children = $25C \times 32 = 800C$

Now, $80M = 800C$

$\Rightarrow M/C = 10/1$

Given the efficiency of a woman = $2 \times$ The efficiency of a child

$\Rightarrow C/W = 1/2$

So, $M : W : C = 10 : 2 : 1$

The work done by 10 men = $80 \times 10 = 800$ units

Let the time to complete the work by 3 men, 3 women, and 4 children = x days

So,

The work done by 3 men, 3 women, and 4 children

$\Rightarrow (3 \times 10 + 3 \times 2 + 4 \times 1) \times x = 40x$

Now, $800 = 40x$

$\Rightarrow x = 20$ days

Q:5 The correct answer is **option 3** i.e. **13.7 days**.

Suppose the total work = L.C.M (24, 32) = 96 units

So, Raj can do 4 units/day and Lakhan can do 3 units/day

If both work together, the number days taken to complete the work = $96/(3 + 4) = 13.7$ days

Q:6 The correct answer is **Option 1** i.e. **13.75 days**.

$M_1 \times D_1 \times H_1 = M_2 \times D_2 \times H_2$

where, M = number of workers, D = Days and H = hours

$\Rightarrow 10 \times 22 = 16 \times D_2$

$\Rightarrow D_2 = 13.75$ days

Q:7 The correct answer is **option 4** i.e. **16**.

We know that, $M_1 D_1 H_1 / W_1 = M_2 D_2 H_2 / W_2$

Where M_1, M_2 is the number of men, D_1, D_2 is the number of days, H_1, H_2 is the number of hours per day, and W_1, W_2 is the amount of work.

Here work in both cases is the same.

$\Rightarrow 20 \times 10 \times 12 = 25 \times 6 \times D_2$

$\Rightarrow D_2 = 16$ days

Q:8 The correct answer is **Option 2** i.e. **6.3 days**.

P can build a wall in 15 days

Q can build a wall in 18 days

R can build a wall in 27 days



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P's 1-day work = $1/15$
Q's 1-day work = $1/18$
R's 1-day work = $1/27$
1 days work of (P + Q + R) = $1/15 + 1/18 + 1/27 = (36 + 30 + 20)/540 = 86/540$
A wall will be build by them together = $540/86 = 6.3$ days

Q:9 The correct answer is **option 4** i.e. **14 Days**.

Time = Total work / Efficiency

Shyam = 24 days

Mohan = 30 days

Jatin = 40 days

S + M + J = 5 days

Mohan = 1 day extra

Let, Total work is

LCM of 24, 30, and 40 = 120 units

Efficiency of S = $120/24 = 5$ units/day

Efficiency of M = $120/30 = 4$ units/day

Efficiency of S = $120/40 = 3$ units/day

Together effi. = $(5 + 4 + 3) = 12$ units/day

5 days work together = $(12 \times 5) = 60$ units

1 day work by M = $4 \times 1 = 4$ unit

Remaining work = $120 - (60 + 4) = 56$ units

(M + J) time = $56/(4 + 3) = 8$ days

Total time = $(5 + 1 + 8)$ days = 14 days

Q:10 The correct answer is **option 1** i.e. **16 days**

Total work = LCM (24, 18) = 72 units

The efficiency of P = $72/18$

$\Rightarrow 4$ units/day

The efficiency of Q = $72/24$

$\Rightarrow 3$ units/day

The total amount of work done in the first 6 days,

$\Rightarrow 6(4 + 3) = 42$

Work left = $72 - 42 = 30$ units

Number of days required by Q to complete the work = $30/3$

$\Rightarrow 10$ days

Total number of days = $10 + 6 = 16$ days