List of 50 Important Aptitude Questions on Time and Work (with solutions below)

1). A is 30% more efficient than B. How much time will they, working together, take to complete a job which A alone could have done in 23 days?

   a) 11 days
   b) 13 days
   c) 20 $\frac{3}{7}$ days
   d) None of these

2). A does half as much work as B in three-fourth of the time. If together they take 18 days to complete the work, how much time shall B take to do it?

   a) 30 days
   b) 40 days
   c) 15 days
   d) None of these

3). A is 50% as efficient as B. C does half of the work done by A and B together. If C alone does the work in 40 days, then A, B and C together can do the work in?

   a) 13 $\frac{1}{3}$ days
   b) 20 days
   c) 15 days
   d) 30 days

4). Two workers A and B working together completed a job in 5 days. If A worked twice as efficiently as he actually did and B worked $\frac{1}{3}$ as efficiently as he actually did, the work would have been completed in 3 days. A alone could complete the work in?

   a) 7 $\frac{1}{2}$ days
b) $6\frac{1}{4}$ days  

c) $5\frac{1}{4}$ days  

d) None of these

5). A can do a work in 15 days and B in 20 days. If they work on it together for 4 days, then the fraction of the work that is left is?

a) $\frac{1}{10}$  

b) $\frac{1}{4}$  

c) $\frac{7}{15}$  

d) $\frac{8}{15}$

6). A can finish a work in 18 days and B can do the same work in 15 days. B worked for 10 days and left the job. In how many days, A alone can finish the remaining work?

a) 8  

b) 5  

c) 6  

d) $5\frac{1}{2}$

7). A and B can complete a work in 15 days and 10 days respectively. They started doing the work together but after 2 days B had to leave and A alone completed the remaining work. The whole work was completed in?

a) 10 days  

b) 15 days  

c) 12 days  

d) 8 days

8). A can finish a work in 24 days, B in 9 days and C in 12 days. B and C start the work but are forced to leave after 3 days. The remaining work was done by A in?
9) A 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 them in 12 hours. All the machines are started at 9 a.m. While machine P is closed at 11 a.m. and the remaining two machines complete the work. Approximately at what time will the work be finished?

a) 11:30 am  
b) 12:30 pm  
c) 12 noon  
d) 1 pm 

10) A and B can do a piece of work in 30 days, while B and C can do the same work in 24 days and C and A in 20 days. They all work together for 10 days when B and C leave. How many days more will A take to finish the work?

a) 18 days  
b) 36 days  
c) 24 days  
d) 30 days 

12). A and B can together finish work in 30 days. They worked together for 20 days and then B left. After another 20 days, A finished the remaining work. In how many days A alone can finish the job?

a) 40
b) 50
c) 54
d) 60

13). X can do a piece of work in 40 days. He works at it for 8 days and then Y finished it in 16 days. How long will they together take to complete the work?

a) 13 1/3 days
b) 16 days
c) 25 days
d) 50 days

14). A, B, C together can complete a piece of work in 10 days. All the three started working at it together and after 4 days A left. Then B and C together completed the work in 10 more days. A alone could complete the work in?

a) 15 days
b) 16 days
c) 25 days

d) 50 days

15). A does 4/5 of a work in 20 days. He then calls in B and they together finish the remaining work in 3 days. How long B alone would take to do the whole work?

a) 23 days

b) 37 days

c) 37 ½ days

d) 40 days

16). A and B together can do a piece of work in 30 days. A having worked for 16 days. B finished the remaining work alone in 44 days. In how many days shall B finish the whole work alone?

a) 30 days

b) 40 days

c) 60 days

d) 70 days

17). A and B together can do a piece of work in 12 days, which B and C together can do in 16 days. After A has been working at it for 5 days and B for 7 days, C finishes it in 13 days. In how many days C alone will do the work?

a) 46

b) 24

c) 16

d) 36
18). A and B can do a piece of work in 45 days and 40 days respectively. They began to the work together but A leaves after some days and then B completed the remaining work in 23 days. The number of days which A left the work was?

a) 8  
b) 6  
c) 9  
d) 12

19). A can do a piece of work in 14 days which B can do in 21 days. They begin together but 3 days before the completion of the work, A leave off. The total number of days to complete the work is?

a) 6 3/5  
b) 8 1/2  
c) 10 1/5  
d) 13 1/2

20). A can do a piece of work in 14 days which B can do in 21 days. They begin together but 3 days before the completion of the work, A leave off. The total number of days to complete the work is?

a) 15 days  
b) 25 days  
c) 22 days  
d) 35 days

21). A, B and C together earn Rs.300 per day, while A and C together earn Rs.188 and B and C together earn Rs.152. The daily earning of C is?

a) Rs.40  
b) Rs.112  
c) Rs.68  
d) Rs.150  

22). A, B and C are employed to do a piece of work for Rs.529. A and B together are supposed to do 19/23 of the work and B and C together do 8/23 of the work. What amount should A be paid?

a) Rs.315  
b) Rs.345  
c) Rs.375  
d) Rs.355  

23). Kim can do a work in 3 days while David can do the same work in 2 days. Both of them finish the work together and get Rs.150. What is the share of Kim?

a) Rs.70  
b) Rs.60  
c) Rs.75  
d) Rs.30  

24). If A can do ¼ of a work in 3 days and 3 days and B can do 1/6 of the same work in 4 days, how much will A get if both work together and are paid Rs.180 in all?

a) Rs.60
25). A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs.3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

a) Rs.600
b) Rs.400
c) Rs.375
d) Rs.800

26). A sum of money is sufficient to pay A’s wages for 21 days and B’s wages for 28 days. The same money is sufficient to pay the wages of both for?

a) 12 days
b) 14 days
c) 121/4 days
d) 24 ½ days

27). A can do a piece of work in 10 days in 15 days. They work for 5 days. The rest of the work had finished by C in 2 days. If they get Rs.1500 for the whole work, the daily wages of B and C are?

a) Rs.150
b) Rs.225
c) Rs.250
d) Rs.300

28). A and B together can complete a work in 12 days. A alone can complete it in 20 days. If B does the work only for half a day daily, then in how many days A and B together will complete the work?

a) 10 days
b) 20 days
c) 15 days
d) 11 days

29). A alone can complete a work in 16 days and B alone in 12 days. Starting with A, they work on alternate days. The total work will be completed in?

a) 12 days
b) 13 days
c) 13 $\frac{3}{7}$ days
d) 13 $\frac{3}{4}$ days

30). A, B and C can do a piece of work in 11 days, 20 days and 55 days respectively, working alone. How soon can the work be done if A is assisted by B and C on every third day?

a) 7 days
b) 8 days
c) 9 days
d) 10 days

31). A, B and C can separately do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on alternative days?

a) 12 days  
b) 15 days  
c) 18 days  
d) 16 days

32). A and B can separately do a piece of work in 20 and 15 days respectively. They worked together for 6 days, after which B was replaced by C. If the work was finished in next 4 days, then the number of days in which C alone could do the work will be?

a) 30 days  
b) 35 days  
c) 40 days  
d) 60 days

33). A, B and C can do a work in 36, 54 and 72 days respectively. They started the work but A left 8 days before the completion of the work while B left 12 days before the completion. The number of days for which C worked is?

a) 4  
b) 12  
c) 8  
d) 24

34). Twenty women can do a work in sixteen days. Sixteen men can completed the same work in fifteen days. What is the ratio between the capacity of a man and women?

a) 3:4
b) 4:3  
c) 5:3  
d) Data inadequate  

35). 10 men can complete a piece of work in 15 days and 15 women can complete the same work in 12 days. If all the 10 men and 15 women work together, in how many days will the work get completed?

a) 6  
b) 6 $\frac{1}{3}$  
c) 6 $\frac{2}{3}$  
d) 7 $\frac{2}{3}$  

36). Seven men can complete a work in 12 days. They started the work and after 5 days, two men left. How many days will they take to complete the remaining work?

a) 2 days  
b) 4 days  
c) 5 days  
d) None of these  

37). 12 men complete a work in 9 days. After they have worked for 6 days, 6 more men join them. How many days will they take to complete the remaining work?

a) 2 days  
b) 4 days  
c) 3 days
38). Three men, four women and six children can complete a work in seven days. A woman does double the work a man does half the work a man does. How many women alone can complete this work in 7 days?

a) 7
b) 8
c) 12
d) Cannot be determined
e) None of these

39). A man, a woman and a boy can complete a job in 3, 4 and 12 days respectively. How many boys must assist 1 man 1 woman to complete the job ¼ of a day?

a) 1
b) 4
c) 19
d) 41

e) None of these

40). 10 men and 15 women together can complete a work in 6 days. It takes 100 days for one man alone to complete the same work. How many days will be required for one woman alone to complete the same work?

a) 90
b) 145
c) 125
d) 150

e) None of these


41). 12 men can complete a piece of work in 4 days, while 15 women can complete the same work in 4 days. 6 men start working on the job and after working for 2 days, all of them stopped working. How many women should be put on job to complete the remaining work, if it is to be completed in 3 days?

a) 15

b) 22

c) 18

d) Data inadequate

e) None of these

42). Twelve children take sixteen days to complete a work which can complete by eight adults in twelve days. Sixteen adults started working and after three days ten adults left and four children joined them. How many days will they take to complete the remaining work?

a) 3

b) 8

c) 4

d) 6

e) None of these

43). 10 women can complete a work in 7 days and children take 14 days to complete the work. How many days will 5 women and 10 children take to complete the work?
a) 3
b) 5
c) 7
d) Cannot be determined
e) None of these

44). Sixteen men can complete a work in twelve days. Twenty-four children can complete the same work in eighteen days. Twelve men and eight children started working and after eight days three more children joined them. How many days will they now take to complete the remaining work?
a) 2 days
b) 4 days
c) 6 days
d) 8 days
e) None of these

45). Twenty-four men can complete a work in sixteen days. Thirty-two women can complete the same work in twenty-four days. Sixteen men and sixteen women started working and worked for twelve days. How many more men are to added to complete the remaining work in 2 days?
a) 16
b) 24
c) 36
d) 48
e) None of these
46). 5 men and 2 boys working together can do four times as much work as a man and a boy. Working capacities of a woman and a boy are in the ratio?

a) 1:2  
b) 2:1  
c) 1:3  
d) 3:1

47). If 12 men and 2 boys working together can do four times as much work as a man and a boy. Working capacities of a woman and a boy are in the ratio?

a) 2:1  
b) 3:1  
c) 3:2  
d) 5:4

48). 4 men and 6 women can complete a work in 8 days, while 3 men and 7 women can complete it in 10 days. In how many days will 10 women complete it?

a) 35  
b) 40  
c) 50  
d) 45

49). One man, 3 women and 4 boys can do a piece of work in 96 hours, 2 men and 8 days can do it in 80 hours, 2 men and 3 women can do it in 120 hours. 5 men and 12 boys can do in:

a) $39 \frac{1}{11}$ hours
b) \(42 \frac{7}{11}\) hours

c) \(43 \frac{7}{11}\) hours

d) 44 hours

50). If 6 men and 8 boys can do a piece of work in 10 days while 26 men and 48 boys can do the same in 2 days, the time taken by 15 men and 20 boys in doing the same type of work will be?

a) 4 days

b) 5 days

c) 6 days

d) 7 days

Solutions for the above Time and Work Aptitude Questions:

1). A is 30% more efficient than B. How much time will they, working together, take to complete a job which A alone could have done in 23 days?

Ratio of times taken by A and B = 100: 130 = 10: 13,

Suppose B takes x days to do the work.

Then, 10: 13 :: 23 : x => x = \(\frac{23 \times 13}{10}\) => x = \(\frac{299}{10}\)

A’s 1 day’s work = \(\frac{1}{23}\); B’s 1 day’s work = \(\frac{10}{299}\).

A and B together can complete the job in 13 days.

Answer: b

2). A does half as much work as B in three-fourth of the time. If together they take 18 days to complete the work, how much time shall B take to do it?

Suppose B takes x days to do the work

A takes \((2 \times \frac{3}{4} \times x) = \frac{3x}{2}\) days to do it.

\((A + B)'S 1 day’s work = \frac{1}{18}\).

\(\frac{1}{x} + \frac{2}{3x} = \frac{1}{18}\) or x = 30

Answer: a

3). A is 50% as efficient as B. C does half of the work done by A and B together. If C alone does the work in 40 days, then A, B and C together can do the work in?

\((A’s 1 day’s work) : (B’s 1 day’s work) = 150:100 = 3:2.\)

Let A’s and B’s 1 day’s work be 3x and 2x respectively.

Then, C’s 1 day’s work = \(\left(\frac{3x+2}{2}\right) = \frac{5x}{2}\)
\[
\frac{5x}{2} = \frac{1}{40} \quad \text{or} \quad x = \left(\frac{1}{40} \times \frac{2}{5}\right) = \frac{1}{100}
\]

A’s 1 day’s work = \(\frac{3}{100}\); B’s 1 day’s work = \(\frac{1}{50}\); C’s 1 day’s work = \(\frac{1}{40}\)

\[(A+B+C)’s \ 1 \ day’s \ work = \left(\frac{3}{100} + \frac{1}{50} + \frac{1}{40}\right) = \frac{15}{20} = \frac{3}{40}\]

So, A, B and C together can do the work in \(\frac{40}{3} = 13 \frac{1}{3}\) days.

Answer: a

4.) Two workers A and B working together completed a job in 5 days. If A worked twice as efficiently as he actually did and B worked \(\frac{1}{3}\) as efficiently as he actually did, the work would have been completed in 3 days. A alone could complete the work in?

Let A’s 1 day’s work = x and B’s 1 day’s work = y

Then, \(x+y=\frac{1}{5}\) and \(2x+\frac{1}{3}y = \frac{1}{3}\)

Solving, we get : \(x=\frac{4}{25}\) and \(y=\frac{1}{25}\)

A’s 1 day’s work = \(\frac{4}{25}\)

So, A alone could complete the work in \(\frac{25}{4} = 6 \frac{1}{4}\) days

Answer: b

5.) A can do a work in 15 days and B in 20 days. If they work on it together for 4 days, then the fraction of the work that is left is?

A’s 1 day’s work = \(\frac{1}{15}\); B’s 1 day’s work = \(\frac{1}{20}\)

\[(A+B)’s \ 1 \ day’s \ work = \left(\frac{1}{15} + \frac{1}{20}\right) = \frac{7}{60}\]

\[(A+B)’s \ 4 \ day’s \ work = \left(\frac{7}{60} \times 4\right) = \frac{7}{15}\]

Remaining work = \(1 - \frac{7}{15}\) = \(\frac{8}{15}\)

Answer: d
6). A can finish a work in 18 days and B can do the same work in 15 days. B worked for 10 days and left the job. In how many days, A alone can finish the remaining work?

B’s 10 day’s work = \( \left( \frac{1}{15} \times 10 \right) = \frac{2}{3} \). Remaining work = \( 1 - \frac{2}{3} = \frac{1}{3} \)

Now, \( \frac{1}{10} \) work is done by A in 1 day

\( \frac{1}{3} \) work’s done by A in \( 18 \times \frac{1}{3} = 6 \) days

Answer: c

7). A and B can complete a work in 15 days and 10 days respectively. They started doing the work together but after 2 days B had to leave and A alone completed the remaining work. The whole work was completed in?

\( (A+B)’s \) 1 day’s work = \( \left( \frac{1}{15} + \frac{1}{10} \right) = \frac{1}{6} \)

Work done by A and B in 2 days = \( \left( \frac{1}{6} \times 2 \right) = \frac{1}{3} \). Remaining work = \( 1 - \frac{1}{3} = \frac{2}{3} \)

Now, \( \frac{1}{15} \) work will be done by A in 1 day.

\( \frac{2}{3} \) work will be done by A in \( 15 \times \frac{2}{3} = 10 \) days.

Hence, total time taken = (10 + 2) = 12 days

Answer: c

8). A can finish a work in 24 days, B in 9 days and C in 12 days. B and C start the work but are forced to leave after 3 days. The remaining work was done by A in?

\( (B+C)’s \) 1 day’s work = \( \left( \frac{1}{9} + \frac{1}{12} \right) = \frac{7}{36} \).

Work done by B and C in 3 days = \( \left( \frac{7}{36} \times 3 \right) = \frac{7}{12} \)

Remaining work = \( 1 - \frac{7}{12} = \frac{7}{12} \)

Now, \( \frac{1}{24} \) work is done by A in 1 day
So, \( \frac{5}{12} \) work is done by A in \( 24 \times \frac{5}{12} \) = 10 days

Answer: c

9). A 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 them in 12 hours. All the machines are started at 9 a.m. While machine P is closed at 11 am and the remaining two machines complete the work. Approximately at what time will the work be finished?

\[(P+Q+R)\text{'s 1 hour's work} = \left( \frac{1}{8} + \frac{1}{10} + \frac{1}{12} \right) = \frac{37}{120} \]

Work done by P, Q, and R in 2 hours = \( \frac{37}{120} \times 2 = \frac{37}{60} \)

Remaining work = \( 1 - \frac{37}{60} = \frac{23}{60} \)

\[(Q+R)\text{'s 1 hour's work} = \left( \frac{1}{10} + \frac{1}{12} \right) = \frac{11}{60} \]

Now, \( \frac{11}{60} \) work is done by Q and R in 1 hour

So, \( \frac{23}{60} \) work will be done by Q and R in \( \left( \frac{60}{11} \times \frac{23}{60} \right) = \frac{23}{11} \) hours = 2 hours.

So, the work will be finished approximately 2 hours after 11 a.m, i.e., round 1 p.m

Answer: d

10). A and B can do a piece of work in 30 days, while B and C can do the same work in 24 days and C and A in 20 days. They all work together for 10 days when B and C leave. How many days more will A take to finish the work?

\[2(A+B+C)\text{'s 1 day's work} = \left( \frac{1}{30} + \frac{1}{24} + \frac{1}{20} \right) = \frac{15}{120} = \frac{1}{8} \]

=> \( A+B+C \)’s 1 day’s work = \( \frac{1}{16} \)

Work done by A, B, and C in 10 days = \( \frac{10}{16} = \frac{5}{8} \)

Remaining work = \( 1 - \frac{5}{8} = \frac{3}{8} \)

A’s 1 day’s work = \( \frac{1}{16} - \frac{1}{24} = \frac{1}{48} \)

Now, \( \frac{1}{48} \) work is done by A in 1 day
So, \( \frac{3}{8} \) work will be done by A in \( 48 \times \frac{3}{8} \) = 18 days.

**Answer: a**

11). X and Y can do a piece of work in 20 days and 12 days respectively. X started the work alone and then after 4 days Y joined him till the completion of the work. How long did the work last?

Work done by X in 4 days = \( \frac{1}{20} \times 4 \) = \( \frac{1}{5} \) Remaining work = \( 1 - \frac{1}{5} \) = \( \frac{4}{5} \)

\((X+Y)\)'s 1 day's work = \( \frac{1}{20} + \frac{1}{12} \) = \( \frac{8}{60} \) = \( \frac{2}{15} \)

Now, \( \frac{2}{15} \) work is done by X and Y in 1 day

So, \( \frac{4}{5} \) work will be done by X and Y in \( \frac{15}{2} \times \frac{4}{5} \) = 6 days.

Hence, total time taken = (6 + 4) days = 10 days

**Answer: b**

12). A and B can together finish work in 30 days. They worked together for 20 days and then B left. After another 20 days, A finished the remaining work. In how many days A alone can finish the job?

\((A+B)\)'s 20 day's work = \( \frac{1}{30} \times 20 \) = \( \frac{2}{3} \), Remaining work = \( 1 - \frac{2}{3} \) = \( \frac{1}{3} \)

Now, \( \frac{1}{3} \) work is done by A in 20 days.

Whole work will be done by A in \( (20 \times 3) = 60 \) days

**Answer: d**

13). X can do a piece of work in 40 days. He works at it for 8 days and then Y finished it in 16 days. How long will they together take to complete the work?

Work done by X in 8 days = \( \frac{1}{40} \times 8 \) = \( \frac{1}{5} \) Remaining work = \( 1 - \frac{1}{5} \) = \( \frac{4}{5} \)

Now, \( \frac{4}{5} \) work is done by Y in 16 days.
Whole work will be done by Y in \((16 \times \frac{5}{4}) = 20\) days

X’s 1 day’s work = \(\frac{1}{40}\) Y’s 1 day’s work = \(\frac{1}{20}\)

\((X+Y)’s\ 1\ day’s\ work = (\frac{1}{40} + \frac{1}{20}) = \frac{3}{40}\)

Hence, X and Y will together complete the work in \(\frac{40}{3} = 13\frac{1}{3}\) days.

**Answer: a**

14. A, B, C together can complete a piece of work in 10 days. All the three started working at it together and after 4 days A left. Then B and C together completed the work in 10 more days. A alone could complete the work in?

Work done by A, B and C in 4 days = \((\frac{1}{10} \times 4) = \frac{2}{3}\). Remaining work = \((1 - \frac{2}{3}) = \frac{1}{3}\)

Now, \(\frac{3}{5}\) work is done by B and C in 10 days.

Whole work will be done B and C in \((10 \times \frac{5}{3}) = \frac{50}{3}\) days.

\((A+B+C)’s\ 1\ day’s\ work = \frac{1}{10}, (B + C)’s\ 1\ day’s\ work = \frac{3}{50}\)

A’s 1 day’s work = \((\frac{1}{10} - \frac{3}{50}) = \frac{2}{50} = \frac{1}{25}\)

A alone could complete the work in 25 days.

**Answer: c**

15. A does 4/5 of a work in 20 days. He then calls in B and they together finish the remaining work in 3 days. How long B alone would take to do the whole work?

Whole work is done by A in \((20 \times \frac{5}{4}) = 25\) days.

Now, \((1 - \frac{4}{5})\) i.e., \(\frac{1}{5}\) work is done by A and B in 3 days.

Whole work will be done by A and B in \((3 \times 5) = 15\) days

A’s 1 day’s work = \(\frac{1}{25}\), (A + B)'s 1 day’s work = \(\frac{1}{15}\)

So, B alone would do the work in \(\frac{75}{2} = 37\frac{1}{2}\) days.
16). A and B together can do a piece of work in 30 days. A having worked for 16 days, B finished the remaining work alone in 44 days. In how many days shall B finish the whole work alone?

Let A’s 1 day’s work = x and B’s 1 day’s work = y

Then, \( x + y = \frac{1}{30} \) and \( 16x + 44y = 1 \)

Solving these two equations, we get: \( x = \frac{1}{60} \) and \( y = \frac{1}{60} \)

B’s 1 day’s work = \( \frac{1}{60} \)

Hence, B alone shall finish the whole work in 60 days.

Answer: c

17). A and B together can do a piece of work in 12 days, which B and C together can do in 16 days. After A has been working at it for 5 days and B for 7 days, C finishes it in 13 days. In how many days C alone will do the work?

A’s 5 day’s work + B’s 7 day’s work + C’s 13 day’s work = 1

\[
=> (A+B)’s 5 day’s work + (B+C)’s day’s work + C’s 11day’s work = 1
\]

\[
=> \frac{5}{12} + \frac{2}{16} + C’s 11 day’s work = 1
\]

\[
=> C’s 11 day’s work = 1 - \left( \frac{5}{12} + \frac{2}{16} \right) = \frac{11}{24}
\]

\[
=> C’s 1 day’s work = \left( \frac{11}{24} \times \frac{1}{11} \right) = \frac{1}{24}
\]

C alone can finish the work in 24 days.

Answer: b

18). A and B can do a piece of work in 45 days and 40 days respectively. They began to the work together but A leaves after some days and then B completed the remaining work in 23 days. The number of days which A left the work was?
(A+B)'s 1day's work = \( \frac{1}{45} + \frac{1}{40} = \frac{17}{360} \)

Work done by B in 23 days = \( \frac{1}{40} \times 23 = \frac{23}{40} \). Remaining work = \( 1 - \frac{23}{40} = \frac{17}{40} \)

Now, \( \frac{17}{360} \) work was done by (A+B) in 1 day.

\( \frac{17}{40} \) work was done by (A + B) in \( 1 \times \frac{360}{17} \times \frac{17}{40} \) = 9 days.

A left after 9 days

**Answer: c**

19). A can do a piece of work in 14 days which B can do in 21 days. They begin together but 3 days before the completion of the work, A leave off The total number of days to complete the work is?

B’s 3 day’s work = \( \frac{1}{21} \times 3 = \frac{1}{7} \). Remaining work = \( 1 - \frac{1}{7} = \frac{6}{7} \)

(A+B)’s 1 day’s work = \( \frac{1}{14} + \frac{1}{21} = \frac{5}{42} \)

Now, \( \frac{5}{42} \) work is done by A and B in 1 day

\( \frac{6}{7} \) work is done by A and B in \( \frac{42}{6} \times \frac{6}{7} \) = \( \frac{36}{5} \) days

Hence, total times taken = \( 3 + \frac{36}{5} \) days = 10 \( \frac{1}{5} \) days

**Answer: c**

20). A can do a piece of work in 14 days which B can do in 21 days. They begin together but 3 days before the completion of the work, A leave off The total number of days to complete the work is?

(A+B+C)’s 1 day’s work = \( \frac{1}{24} + \frac{1}{36} + \frac{1}{48} = \frac{12}{144} \)

Work done by (A+B+C) in 4 days = \( \frac{13}{144} \times 4 = \frac{13}{36} \)

Work done by B in 3 days = \( \frac{1}{36} \times 3 = \frac{1}{12} \). Remaining work = \( 1 - \left( \frac{13}{36} + \frac{1}{12} \right) = \frac{5}{9} \)

(A+B)’s 1 day’s work = \( \frac{1}{24} + \frac{1}{36} = \frac{5}{72} \)
Now, \( \frac{5}{72} \) work is done by A and B in \( \left( \frac{72}{5} \times \frac{5}{9} \right) \) = 8 days.

Hence total time taken = (4+3+8) days = 15 days

**Answer: a**

21). A, B and C together earn Rs.300 per day, while A and C together earn Rs.188 and B and C together earn Rs.152. The daily earning of C is?

B’s daily earning = Rs. (300 – 188) = Rs. 112

A’s daily earning = Rs. (300 – 152) = Rs. 148.

C’s daily earning = Rs. \[30 – (112 + 148)\] = Rs 40

**Answer: a**

22). A, B and C are employed to do a piece of work for Rs.529. A and B together are supposed to do \( \frac{19}{23} \) of the work and B and C together do \( \frac{8}{23} \) of the work. What amount should A be paid?

Work done by A = \( \left( 1 - \frac{8}{23} \right) \) = \( \frac{15}{23} \)

A : (B+C)\( = \frac{15}{23} : \frac{8}{23} = 15:8 \)

So, A’s share = Rs. \( \frac{15}{23} \times 529 \) = Rs. 345

**Answer: b**

23). Kim can do a work in 3 days while David can do the same work in 2 days. Both of them finish the work together and get Rs.150. What is the share of Kim?

Kim’s wages : David’s wages = Kim’s 1 day’s work : David’s 1 day’s work

\[ \frac{1}{3} : \frac{1}{2} = 2:3 \]

Kim’s share = Rs. \( \frac{2}{5} \times 150 \) Rs. 60

**Answer: b**
24). If A can do ¼ of a work in 3 days and 3 days and B can do 1/6 of the same work in 4 days, how much will A get if both work together and are paid Rs.180 in all?

Whole work is done by A in \((3 \times 4) = 12\) days.

Whole work is done by B in \((4 \times 6) = 24\) days.

A’s wages: B’s wages = A’s 1 day’s work; B’s 1 day’s work = \(\frac{1}{12}:\frac{1}{12} = 2:1\)

A’s share = Rs. \(\left(\frac{2}{3} \times 180\right) = Rs. 120\)

Answer: d

25.) A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs.3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

C’s 1 day’s work = \(\frac{1}{3} - \left(\frac{1}{6} + \frac{1}{8}\right) = \frac{1}{24}\)

A’s wages: B’s wages: C’s wages = \(\frac{1}{6}:\frac{1}{8}:\frac{1}{24} = 4:3:1\)

C’s share = Rs. \(\left(\frac{1}{6} \times 3200\right) = Rs. 400\)

Answer: b

26). A sum of money is sufficient to pay A’s wages for 21 days and B’s wages for 28 days. The same money is sufficient to pay the wages of both for?

Let total money be Rs. \(X\)

A’s 1 day’s wages = Rs. \(\frac{X}{21}\), B’s 1 day’s wages = Rs. \(\frac{X}{28}\)

\((A+B)’s\) 1 day’s wages = Rs. \(\frac{X}{21} + \frac{X}{28}\) = Rs. \(\frac{X}{28}\)

Money is sufficient to pay the wages of both for 12 days

Answer: a
27). A can do a piece of work in 10 days in 15 days. They work for 5 days. The rest of the work had finished by C in 2 days. If they get Rs.1500 for the whole work, the daily wages of B and C are?

Part of the work done by A = \( \frac{1}{10} \times 5 = \frac{1}{2} \)

Part of the work done by B = \( \frac{1}{15} \times 5 = \frac{1}{3} \)

Part of the work done by C = \( 1 - \left( \frac{1}{2} + \frac{1}{3} \right) = \frac{1}{6} \)

So, (A’s share): (B’s share): (C’s share) = \( \frac{1}{2} : \frac{1}{3} : \frac{1}{6} = 3:2:1 \)

A’s share = Rs. \( \left( \frac{3}{6} \times 1500 \right) = Rs. 750 \), B’s share = Rs. \( \left( \frac{2}{6} \times 1500 \right) = Rs. 500 \),

C’s share = Rs. \( \left( \frac{1}{6} \times 1500 \right) = Rs. 250 \)

A’s daily wages = Rs. \( \left( \frac{750}{5} \right) = Rs. 150 \); B’s daily wages = Rs. \( \left( \frac{500}{5} \right) = Rs. 100 \);

C’s daily wages = Rs. \( \left( \frac{250}{2} \right) = Rs. 125 \).

Daily wages of B and C = Rs. \( (100 + 125) = Rs. 225 \)

Answer: b

28). A and B together can complete a work in 12 days. A alone can complete it in 20 days. If B does the work only for half a day daily, then in how many days A and B together will complete the work?

B’s 1 day’s work = \( \left( \frac{1}{12} - \frac{1}{20} \right) = \frac{2}{60} = \frac{1}{30} \)

Now, (A+B)'s 1 day’s work = \( \frac{1}{20} + \frac{1}{60} = \frac{4}{60} = \frac{1}{15} \). |B works for half day only|

So, A and B together will complete the work in 15 days

Answer: c

29). A alone can complete a work in 16 days and B alone in 12 days. Starting with A, they work on alternate days. The total work will be completed in?
A+B)'s 2 day's work = \( \frac{1}{16} + \frac{1}{12} = \frac{7}{48} \)

Work done in 6 pairs of days = \( \frac{7}{48} \times 6 = \frac{7}{8} \). Remaining work = \( 1 - \frac{7}{8} = \frac{1}{8} \)

Work done by A on 13th day = \( \frac{1}{16} \). Remaining work = \( \frac{1}{8} - \frac{1}{16} = \frac{1}{16} \)

On 14th day, it is B’s turn.

\( \frac{1}{12} \) work is done by B in 1 day. \( \frac{1}{16} \) work is done by B in \( 12 \times \frac{1}{16} = \frac{3}{4} \) day.

Total time taken = 13\( \frac{3}{4} \) days.

Answer: d

30). A, B and C can do a piece of work in 11 days, 20 days and 55 days respectively, working alone. How soon can the work be done if A is assisted by B and C on every third day?

(A+B)'s 1 day's work = \( \frac{1}{11} + \frac{1}{20} = \frac{31}{220} \). (A + C)'s work = \( \frac{1}{11} + \frac{1}{55} = \frac{6}{55} \)

Work done in 2 days = \( \frac{31}{220} + \frac{6}{55} = \frac{55}{220} = \frac{1}{4} \)

Now, \( \frac{1}{4} \) work is done by A in 2 days.

Whole work will be done in \( (2 \times 4) = 8 \) days.

Answer: b

31). A, B and C can separately do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on alternative days? A’s 2 day’s work = \( \frac{1}{20} \times 2 = \frac{1}{10} \)

(A+B+C)'s 1 day's work = \( \frac{1}{20} + \frac{1}{30} + \frac{1}{60} = \frac{6}{60} = \frac{1}{10} \)

Work done in 3 days = \( \frac{1}{10} + \frac{1}{10} = \frac{1}{5} \)

Now, \( \frac{1}{5} \) work is done in 3 days.

Whole work will be done in \( (3 \times 5) = 15 \) days.
Answer: b

32). A and B can separately do a piece of work in 20 and 15 days respectively. They worked together for 6 days, after which B was replaced by C. If the work was finished in next 4 days, then the number of days in which C alone could do the work will be?

\[(A+B)'s \text{ 6 day's work} = 6\left(\frac{1}{20} + \frac{1}{15}\right) = \frac{7}{10}; (A+C)'s \text{ 4 day's work} = \frac{3}{10}\]

\[(A+C)'s \text{ 1 day's work} = \frac{3}{40} A's \text{ 1 day's work} = \frac{1}{20}\]

C's 1 day's work = \(\frac{3}{40} - \frac{1}{20}\) = \(\frac{1}{40}\)

Hence, C alone can finish the work in 40 days.

Answer: c

33). A, B and C can do a work in 36, 54 and 72 days respectively. They started the work but A left 8 days before the completion of the work while B left 12 days before the completion. The number of days for which C worked is?

Suppose, the work was finished in x days.

Then, A’s (x-8) day’s work + B’s (x-12) day’s work + C’s x day’s work = 1

\[\Rightarrow \frac{(x-8)}{36} + \frac{(x-12)}{54} + \frac{x}{72} = 1 \Rightarrow 6(x - 8) + 4(x - 12) + 3x = 216\]

13x = 312 or x=24

Answer: d

34). Twenty women can do a work in sixteen days. Sixteen men can completed the same work in fifteen days. What is the ratio between the capacity of a man and women?

\((20 \times 16) \text{ Women can complete the work in 1 day.}\)

1 woman’s 1 day’s work = \(\frac{1}{320}\)

\((16 \times 15) \text{ men can complete the work in 1 day}\)
1 man’s 1 day’s work = \( \frac{1}{240} \)

So, required ratio = \( \frac{1}{240} : \frac{1}{320} \) = 4:3

**Answer: b**

35). 10 men can complete a piece of work in 15 days and 15 women can complete the same work in 12 days. If all the 10 men and 15 women work together, in how many days will the work get completed? 10 men’s 1 day’s work = \( \frac{1}{15} \); 15 women’s 1 day’s work = \( \frac{1}{12} \).

\[
(10 \text{ men} + 15 \text{ women})'s \ 1 \text{ day's work} = \left( \frac{1}{15} + \frac{1}{12} \right) = \frac{9}{60} = \frac{3}{20}
\]

10 men and 15 women will complete the work in \( \frac{3}{20} = 6 \frac{2}{3} \) days.

**Answer: c**

36). Seven men can complete a work in 12 days. They started the work and after 5 days, two men left. How many days will they take to complete the remaining work?

\[
(7 \times 12) \text{ men can complete the work in 1 day}
\]

1 man’s 1 day’s work = \( \frac{1}{84} \)

7 men’s 5 day’s work = \( \left( \frac{1}{12} \times 5 \right) = \frac{5}{12} \). Remaining work = \( 1 - \frac{5}{12} = \frac{7}{12} \)

5 men’s 1 day’s work = \( \left( \frac{1}{84} \times 5 \right) = \frac{5}{84} \)

\( \frac{5}{84} \) work is done by them in 1 day.

\( \frac{7}{12} \) Work is done by them in \( \left( \frac{84}{5} \times \frac{7}{12} \right) = \frac{49}{5} \) days = 9 \( \frac{4}{5} \) days

**Answer: d**

37). 12 men complete a work in 9 days. After they have worked for 6 days, 6 more men join them. How many days will they take to complete the remaining work?

1 man’s 1 day’s work = \( \frac{1}{108} \)

12 men’s 6 day’s work = \( \left( \frac{1}{9} \times 6 \right) = \frac{2}{3} \). Remaining work = \( 1 - \frac{2}{3} = \frac{1}{3} \)
18 men’s 1 day’s work = \( \left( \frac{1}{108} \times 18 \right) = \frac{1}{6} \)

\[ \frac{1}{6} \text{ Work is done by them in 1 day.} \]

\[ \frac{1}{3} \text{ work is done by them in } \left( 6 \times \frac{1}{3} \right) = 2 \text{ days} \]

Answer: a

38). Three men, four women and six children can complete a work in seven days. A woman does double the work a man does half the work a man does. How many women alone can complete this work in 7 days?

Let 1 woman’s 1 day’s work = \( x \)

Then, 1 man’s 1 day’s work = \( \frac{x}{2} \) and 1 child’s 1 day’s work = \( \frac{x}{4} \)

So, \( \left( \frac{3x}{2} + 4x + \frac{6x}{4} \right) = \frac{1}{7} \Rightarrow x = \left( \frac{1}{7} \times \frac{4}{28} \right) = \frac{1}{49} \)

1 woman alone can complete the work in 49 days.

So, to complete the work in 7 days, number of women required = \( \left( \frac{49}{7} \right) = 7 \)

Answer: a

39). A man, a woman and a boy can complete a job in 3, 4 and 12 days respectively. How many boys must assist 1 man 1 woman to complete the job \( \frac{1}{4} \) of a day?

\( (1 \text{ man } + 1 \text{ woman})'s \text{ 1 day's work} = \left( \frac{1}{3} + \frac{1}{4} \right) = \frac{7}{12} \)

Work done by 1 man and 1 woman in \( \frac{1}{4} \text{ day} = \left( \frac{7}{12} \times \frac{1}{4} \right) = \frac{7}{48} \)

Remaining work = \( \left( 1 - \frac{7}{48} \right) = \frac{1}{48} \)

Work done by 1 boy in \( \frac{1}{4} \text{ day} = \left( \frac{1}{12} \times \frac{1}{4} \right) = \frac{1}{48} \)

Number of boys required = \( \left( \frac{41}{48} \times 48 \right) = 41 \)

Answer: d
40). 10 men and 15 women together can complete a work in 6 days. It takes 100 days for one man alone to complete the same work. How many days will be required for one woman alone to complete the same work?

1 man’s 1 day’s work = \( \frac{1}{100} \). (10 men + 15 women)’s day work = \( \frac{1}{6} \)

15 women’s 1 day’s work = \( \left( \frac{1}{6} - \frac{10}{100} \right) = \left( \frac{1}{6} - \frac{1}{10} \right) = \frac{1}{15} \)

1 woman’s 1 day’s work = \( \frac{1}{225} \)

1 woman alone can complete the work in 225 days.

**Answer:** e

41). 12 men can complete a piece of work in 4 days, while 15 women can complete the same work in 4 days. 6 men start working on the job and after working for 2 days, all of them stopped working. How many women should be put on the job to complete the remaining work, if it is to be completed in 3 days?

1 man’s 1 day’s work = \( \frac{1}{48} \); 1 woman’s 1 day’s work = \( \frac{1}{60} \)

6 men’s 2 day’s work = \( \left( \frac{6}{48} \times 2 \right) = \frac{1}{4} \). Remaining work = \( \left( 1 - \frac{1}{4} \right) = \frac{3}{4} \)

Now, \( \frac{1}{60} \) work is done in 1 day by 1 woman

So, \( \frac{3}{4} \) work will be done in 3 days by \( 60 \times \frac{3}{4} \times \frac{1}{3} = 15 \) women

**Answer:** a

42). Twelve children take sixteen days to complete a work which can complete by eight adults in twelve days. Sixteen adults started working and after three days ten adults left and four children joined them. How many days will they take to complete the remaining work?

1 child’s 1 day’s work = \( \frac{1}{192} \); 1 adult’s 1 day’s work = \( \frac{1}{96} \)

Work done in 3 days = \( \left( \frac{1}{96} \times 16 \times 3 \right) = \frac{1}{2} \). Remaining work = \( \left( 1 - \frac{1}{2} \right) = \frac{1}{2} \)

(6 adults + 4 children)’s 1 day’s work = \( \frac{6}{96} + \frac{4}{192} = \frac{1}{12} \)
\begin{align*}
\frac{1}{12} & \text{ Work is done by them in 1 day} \\
\frac{1}{2} & \text{ work is done by them } \left( 12 \times \frac{1}{2} \right) = 6 \text{ days} \\
\textbf{Answer: e} \\
\end{align*}

43). 10 women can complete a work in 7 days and children take 14 days to complete the work. How many days will 5 women and 10 children take to complete the work?

1 woman’s 1 day’s work = \frac{1}{70}; 1 child’s 1 day’s work = \frac{1}{140}

(5 women + 10 children)’s 1 day’s work = \left( \frac{5}{70} + \frac{10}{140} \right) = \left( \frac{1}{14} + \frac{1}{14} \right) = \frac{1}{7}

5 women and 10 children will complete the work in 7 days.

\textbf{Answer: c}

44). Sixteen men can complete a work in twelve days. Twenty-four children can complete the same work in eighteen days. Twelve men and eight children started working and after eight days three more children joined them. How many days will they now take to complete the remaining work?

1 man’s 1 day’s work = \frac{1}{192}; 1 child’s 1 day’s work = \frac{1}{432}

Work done in 8 days = 8 \left( \frac{12}{192} + \frac{8}{432} \right) = 8 \left( \frac{1}{16} + \frac{1}{54} \right) = \frac{35}{54}

Remaining work = \left( 1 - \frac{35}{54} \right) = \frac{19}{54}

(12 men + 11 children)’s 1 day’s work = \left( \frac{12}{192} + \frac{11}{432} \right) = \frac{19}{216}

Now, \frac{19}{216} work is done by them in 1 day

\frac{19}{54} \text{ work will be done by them in } \left( \frac{219}{19} \times \frac{19}{54} \right) = 4 \text{ days.}

\textbf{Answer: b}
45). Twenty-four men can complete a work in sixteen days. Thirty-two women can complete the same work in twenty-four days. Sixteen men and sixteen women started working and worked for twelve days. How many more men are to added to complete the remaining work in 2 days?

1 man’s 1 day’s work = \(\frac{1}{384}\); 1 woman’s 1 day’s work = \(\frac{1}{768}\)

Work done in 12 days = \(12\left(\frac{16}{384} + \frac{16}{768}\right) = \left(12 \times \frac{3}{48}\right) = \frac{3}{4}\)

Remaining work = \((1 - \frac{3}{4})\) = \(\frac{1}{4}\)

(16 men + 16 women)’s 2 day’s work = \(2\left(\frac{16}{384} + \frac{16}{768}\right) = \left(2 \times \frac{1}{16}\right) = \frac{1}{8}\)

Remaining work = \((\frac{1}{4} - \frac{1}{8})\) = \(\frac{1}{8}\)

\(\frac{1}{384}\) Work is done in 1 day by 1 man

\(\frac{1}{8}\) Work will be done in 2 days by \(\left(384 \times \frac{1}{8} \times \frac{1}{2}\right) = 24\) men.

Answer: b

46). 5 men and 2 boys working together can do four times as much work as a man and a boy. Working capacities of a woman and a boy are in the ratio?

Let 1 man’s 1 day’s work = \(x\) and 1 boy’s work = \(y\)

Then, \(5x + 2y = 4(x + y)\) => \(x=2y\) => \(\frac{x}{y} = \frac{2}{1}\)

Answer: b

47). If 12 men and 2 boys working together can do four times as much work as a man and a boy. Working capacities of a woman and a boy are in the ratio?

Let 1 man’s 1 day’s work = \(x\) and 1 boy’s work = \(y\)

Then, \(12x+16y = \frac{1}{5}\) and \(13x + 24y = \frac{1}{4}\)

Solving these two equations, we get: \(x = \frac{1}{100}\) and \(y = \frac{1}{200}\)

Required ratio = \(x: y = \frac{1}{100}: \frac{1}{200} = 2:1\)
Answer: a

78). 4 men and 6 women can complete a work in 8 days, while 3 men and 7 women can complete it in 10 days. In how many days will 10 women complete it?

Let 1 man’s 1 day’s work = x and 1 woman’s 1 day’s work = y

Then, \(4x + 6y = \frac{1}{8}\) and \(3x + 7y = \frac{1}{10}\)

Solving these two equations, we get: \(x = \frac{11}{400}\), \(y = \frac{1}{400}\)

1 woman’s 1 day’s work = \(\frac{1}{400}\)

10 women’s 1 day’s work = \(\left(\frac{1}{400}\times 10\right) = \frac{1}{40}\)

Hence, 10 women will complete the work in 40 days.

Answer: b

49). One man, 3 women and 4 boys can do a piece of work in 96 hours, 2 men and 8 days can do it in 80 hours, 2 men and 3 women can do it in 120 hours. 5 men and 12 boys can do in:

Let 1 man’s 1 hour’s work = x, 1 woman’s 1 hour’s work = y
and 1 boy’s 1 hour’s work = z. Then,

\[x + 3y + 4z = \frac{1}{96}\]  
\[\ldots (i)\]
\[2x + 8z = \frac{1}{80}\]  
\[\ldots (ii)\]
\[2x + 3y = \frac{1}{120}\]  
\[\ldots (iii)\]

Adding (ii) and (iii) and subtracting (i) from it, we get, we get: \(3x + 4z = \frac{1}{96}\)  
\[\ldots (iv)\]

From (ii) and (iv), we get \(x = \frac{1}{480}\) Substituting, we get: \(y = \frac{1}{720}\), \(z = \frac{1}{960}\)

\((5\text{ men} + 12\text{ boy})’s\ 1\text{ hour’s work} = \left(\frac{5}{480} + \frac{12}{960}\right) = \left(\frac{1}{96} + \frac{1}{80}\right) = \frac{11}{480}\)

5 men and 12 boys can do the work in \(\frac{480}{11}\) i.e., \(43\frac{7}{11}\) hours

Answer: c
50). If 6 men and 8 boys can do a piece of work in 10 days while 26 men and 48 boys can do the same in 2 days, the time taken by 15 men and 20 boys in doing the same type of work will be?

Let 1 man’s 1 day’s work = x and 1 boy’s 1 day’s work = y

Then, $6x + 8y = \frac{1}{10}$ and $26x + 48y = \frac{1}{2}$

Solving these two equations, we get: $x = \frac{1}{100}$ and $y = \frac{1}{200}$

$(15 \text{ men} + 20 \text{ boy})'s$ 1 day’s work $= \left( \frac{15}{100} + \frac{20}{200} \right) = \frac{1}{4}$

15 men and 20 boys can do the work in 4 days.

**Answer: a**