
FACE
Prep

Time and Work

FACE Prep

Working with Different Efficiencies
Drill 1

FACE Prep

Question

A can do a piece of work in 40 days and B can do the same work in 60 days. Working together, in how many days will they complete the work?

Question

Working together, Rajeev and Vikram can complete a piece of work in 48 days. Rajeev can complete the work alone in 64 days. Both of them worked together for 30 days and then Rajeev left. How long will Vikram take to complete the remaining work?

Question

A can do a piece of work in 10 days, B in 12 days and C in 15 days. They all start the work together, but A leaves the work after 2 days and B leaves 3 days before the work is completed. How many days did the work last?

Hint: C works alone for the last three days.

Pipes and Cisterns
Drill 2

FACE Prep

Question

Two taps A and B can fill a cistern in 42 and 56 minutes respectively. If both the taps are opened together, then find the time taken to fill the cistern.

Question

Two taps A and B can fill a cistern in 10 and 15 minutes respectively. Both the taps are opened together but at the end of 3 minutes, tap B is turned off. In how much time will the cistern be filled?

Question

A cistern is fitted with three taps, namely P, Q and R. P and Q can fill a cistern in 10 and 15 minutes respectively whereas R (emptying tap fitted at the bottom of the cistern) can empty it in 12 minutes. If all the three pipes are kept open, in how much time will the cistern be filled?

Question

A cistern generally takes 20 minutes to be filled by a pipe, but due to a leak, it takes 10 extra minutes to get filled. Find the time in which the leak alone can empty the cistern filled with water.

Work Equivalence (Man Days) Drill 3

FACE Prep

Question

12 men can dig a well in 15 days, working 8 hours a day. How many days will 18 men require to dig a similar well working for 5 hours a day?

Formula: $\frac{N_1 \times D_1 \times H_1}{W_1} = \frac{N_2 \times D_2 \times H_2}{W_2}$

Solve Using Chain Rule:

Men	Days	Hours

Question

30 workers can make 24 tables in 21 days, working 8 hours a day. If 35 workers want to make 18 such tables in 12 days, how many hours should they work every day?

Formula: $\frac{N_1 \times D_1 \times H_1}{W_1} = \frac{N_2 \times D_2 \times H_2}{W_2}$

Solve Using Chain Rule:

Workers	Days	Hours	Tables

Question

If 9 friends can eat 9 ice creams in 9 minutes, how long will 15 friends take to eat 15 such ice creams?

Formula: $\frac{N_1 \times D_1 \times H_1}{W_1} = \frac{N_2 \times D_2 \times H_2}{W_2}$

Solve Using Chain Rule:

Friends	Ice cream	Minutes

Question

A mess has provisions for 360 men for 70 days. If the number of men increases by 90, for how many days will the provisions last?

Formula: $\frac{N_1 \times D_1 \times H_1}{W_1} = \frac{N_2 \times D_2 \times H_2}{W_2}$

Solve Using Chain Rule:

Men	Days

Question

12 boys and 16 girls can do a piece of work in 10 days while 13 boys and 24 girls can do the same work in 8 days. Find the time taken by 15 boys and 20 girls to do the same work.

Question

Division of Wages
Drill 4

FACE Prep

Question

A can complete a piece of work in 30 days. B can complete the same work in 40 days. If they complete the work together and earn Rs. 350 for the job, find A’s share.

Question

A can do a piece of work in 25 days and B can do it in 20 days. They work together for 5 days and then A quits. B completes the remaining work. If they are paid Rs. 750 for the job, find B's share.

Question

A and B can do a work in 20 and 30 days respectively. If both of them working along with C can finish the work in 8 days, then find C’s share in the total wage of Rs. 1200.

Question

In the question discussed earlier, “12 boys and 16 girls can do a piece of work in 10 days while 13 boys and 24 girls can do the same work in 8 days. Find the time taken by 15 boys and 20 girlsto do the same work.”, if the group is paid Rs. 40,000 for the task, what will be the wage paid to each boy and girl per day?

Concept Review Questions

Question

A certain number of men can finish a job in 90 days. If there were 16 more men, the work could have been completed 18 days earlier. How many men were there initially?

A) 108

B) 64

C) 80

D) 48

Question

12 men can build a wall 100 metres long, 3 metres high and 0.5 meter thick in 25 days. In how many days will 20 men build a wall 60 metres long, 4 metres high and 0.25 metres thick?

A) 3 days

B) 12 days

C) 6 days

D) 8 days

Question

A man works twice as fast as a woman. A woman works twice as fast as a child. If 16 men can complete a job in 12 days, then how many days would be required for 32 women and 64 children together to complete the same job?

A) 2 days

B) 12 days

C) 3 days

D) 6 days

Question

To complete a task in 45 days, a contractor employs 45 people. Upon reviewing the work after 30 days, he notices that only half of the task is complete. In order to complete the work in 45 days, how many extra people must he employ now?

A) 90

B) 15

C) 60

D) 45

Question

To complete a task, two men work on the first day, three men on the second day and so on, till it gets completed. If the same work can be completed by 9 men working for 15 days, in how many days will the work be completed in the earlier case?

A) 15 days

B) 16 days

C) 14 days

D) 17 days

Question

4 men and 4 women can build a room in 5 days. 7 men and 2 women will take 4 days to complete the same piece of work. How many days will 6 men and 1 woman take to complete twice the job?

A) 10 days

B) 20 days

C) 5 days

D) None of these

Question

If 3 men or 4 women can reap a field in 43 days, how long will 7 men and 5 women take to reap it?

A) 12 days

B) 1days

C) 6 days

D) 8 days

Question

A is thrice as good as a work man B. If together they can complete a task in 12 days, in how many days can A alone complete it?

A) 48 days

B) 16 days

C) 24 days

D) None of these

Question

Rajeev takes one hour to arrange 96 books. Sanjeev takes one and a half hour to arrange the same number of books. Working together, how many hours will they take to arrange 4000 books?

A) $20^{2/3}$ hours

B) $31^{1/4}$ hours

C) $41^{1/3}$ hours

D) 25 hours

Question

Anil, Benny and Cyril work for a ship building company. Anil can build a ship in 10 days while Benny can build the same ship in 8 days. Working together, all three of them can build a similar ship in 4 days. In how many days can Cyril alone build it?

A) 20 days

B) 80 days

C) 40 days

D) None of these

Question

A and B can do a piece of work in 30 days. B and C can do it in 37.5 days. C and A can do it in 50 days. In how many days will they finish, if A, B and C work together?

A) 25days

B) 15days

C) 10days

D) None of these

Question

A, working alone can make a cabinet in 12 days. B will take 6 days more than A to do the same work. A and B along with the help of C completes it in 5 days. If they are paid Rs. 9000 for the job, find C's share.

A) Rs. 2750

B) Rs. 2500

C) Rs. 2250

D) None of these

Question

Two taps X and Y can fill a cistern in 32 and 40 minutes respectively. Both the taps are opened into the empty cisterns and after some time tap X is closed. Tap Y alone fills the remaining portion of the cistern. If it took 25 minutes to fill the tank, for how much time was tap X kept open?

A) 13 min

B) 25 min

C) 12 min

D) None of these

Question

Taps X and Y can fill a tank in 30 and 40 minutes respectively. Tap Z can empty the filled tank in 60 minutes. If all the three taps are kept open for one minute each, how much time will the taps take to fill the tank?

A) 48 min

B) 72 min

C) 24 min

D) None of these

Question

A booster pump can be used for filling as well as emptying a tank of capacity 2400 m^3. The emptying capacity of the pump is 10 m^3 per minute higher than its filling capacity and the pump needs 8 minutes lesser to empty the tank than it need to fill it. What is the filling capacity of the tank?

A) $20m^3$ per minute

B) $60m^3$ per minute

C) $40m^3$ per minute

D) $50m^3$ per minute

Question

A tap requires 18 hours to fill a tank. On a particular day, it was noticed that 18 hours after the tap was turned open, the tank was not filled due to leak at the bottom of the tank. The leak was plugged and it took the tap 3 more hours to fill the tank. Working alone, how long will the leak take to empty the tank?

A) 3 hrs

B) 108 hrs

C) 72 hrs

D) None of these

Practice Exercise

Question

National Publishing Company has numerous typists working with them. All of them can type at the same rate. If 28 such typists require 28 minutes to type 28 lines, how many lines can 84 typists type in 84 minutes?

A) 84 lines

B) 28 lines

C) 252 lines

D) None of these

Question

A cistern has a leak that can empty it in 8 hours. An inlet pipe with a capacity of 60 litres per hour is turned on. When the leak and the inlet tap are turned on, the cistern filled with water is emptied in 12 hours. What is the capacity of the cistern?

A) 720 litres

B) 360 litres

C) 2880 litres

D) 1440 litres

Question

Amar can finish a piece of work alone in 12 days. Atul alone can finish the same work in 24 days. If both of them work together, then in how many days the work will be finished?

A) 5 days

B) 8 days

C) 12 days

D) 4 days

Question

Ram and Shyam together can finish a piece of work in 8 days. Both started the work together. After 3 days, Ram fell ill. Shyam alone finished the remaining work in 15 days. How many days would Ram take to finish the work alone?

A) 12 days

B) 24 days

C) 8 days

D) 6 days

Question

A and B can do a piece of work in 24 days. B and C can do the same work in 30 days. C and A can do the same work in 40 days. If all the three of them work together, how long will they take to complete the work?

A) 20 days

B) 10 days

C) 40 days

D) None of these

Question

Working alone, A and B can complete a work in 10 and 15 days respectively. If they work together, in how many days will the work be completed? If they received Rs. 300 as payment, then what is A's share?

A) 6 days, Rs. 120

B) 12 days, Rs. 180

C) 6 days, Rs. 180

D) None of these

Question

4 men of equal efficiencies can finish a piece of work by working 10 hours a day in 7 days. How many men will be required to finish the same work, if they work 3.5 hours a day and the work is to be completed in 10 days?

A) 16

B) 18

C) 12

D) 8

Question

A certain number of men can finish a piece of work in 60 days. If there were 8 men more, the work could be finished in 10 days less. Find the original number of men.

A) 50

B) 40

C) 32

D) 48

Question

If an inlet pipe can fill a tank in 4 hours and an outlet pipe can empty the full tank in 5 hours, then what is the portion of the tank filled in 1 hour if both the pipes are kept open?

A) 1/20 of the tank

B) 1/30 of the tank

C) 1/15 of the tank

D) None of these

Question

Two pipes A and B can fill a cistern in 12 and 15 hours respectively, while working alone. If both the pipes are opened together, then find the time taken to fill the cistern.

A) $6\frac{2}{3}$ hrs

B) 6 hrs

C) $8\frac{2}{3}$ hrs

D) None of these

Question

A cistern has a leak that can empty it in 4 hours. A pipe that admits 20 litres of water per hour into the cistern is turned on and now the cistern is emptied in 6 hours. What is the capacity of the cistern?

A) 360 litres

B) 180 litres

C) 240 litres

D) 120 litres

Question

Two pipes A and B can fill a cistern in 12 and 16 minutes respectively. Both the pipes are opened together, but 2 minutes before the cistern is filled, pipe A is closed. How much time will the cistern take to fill?

A) 6 min

B) 14 min

C) 8 min

D) None of these

Question

A and B working separately can finish a work in 12 and 18 days respectively. If they work together for 5 days, and then A goes away, in how many days will B complete the remaining work?

A) 5 days

B) 6.5 days

C) 6 days

D) 5.5 days

Question

A working alone can finish a job in 18 days and B alone can do it in 15 days. If A starts the work alone and is joined by B after 7 days, then the time taken by them to complete the work is

A) 11 days

B) 5 days

C) 7 days

D) None of these

Question

Anil and Raju can work together and finish a work in 10 days. They work together on it for 1 day and then Raju quits. The rest of the work was done by Anil alone in 15 days. In how much time can Raju do the work alone?

A) 22.5 days

B) 25 days

C) 20 days

D) 50 days

Question

Ram can paint his house in 30 days, while Mohan can do the same work in 50 days. Mohan worked for 15 days. How many more days will be required by Ram to finish the remaining work?

A) 35 days

B) 36 days

C) 15 days

D) 21 days

Question

Gopal can make a model of a building in 10 days and Ravi can break the model in 20 days. If they both perform their job together, then in how many days will Gopal be able to finish the work?

A) 20 days

B) 10 days

C) 40 days

D) None of these

Question

Mahesh and Umesh can complete a work in 10 and 15 days respectively. Umesh starts the work and after 5 days, Mahesh joins him. In all, in how many days the work would be completed?

A) 9 days

B) 7 days

C) 5 days

D) None of these

Question

A can do a piece of work in 12 days. B is 60% more efficient than A. The number of days, B would take to do the same piece of work is

A) 30 days

B) 7.5 days

C) 5 days

D) 6 days

Question

A can complete a work in 6 days and B in 5 days. If they work together and receive Rs. 220 on completing a work, B's share would be

A) Rs. 120

B) Rs. 110

C) Rs. 100

D) Rs. 90

Question

A alone can complete a job in 14 days. He is twice as fast as B and B is twice as fast as C. If all of them work together, then in how many days would the job get completed?

A) 4 days

B) 6 days

C) 8 days

D) None of these

Question

12 men can complete a piece of work in 9 days. After 3 days, 6 men joined to replace 2 men. How many days would be required to complete the remaining work?

A) $4\frac{2}{5}$ days

B) 6 days

C) 4 days

D) $4\frac{1}{2}$ days

Question

A, B and C can do a piece of work in 20, 20 and 40 days respectively. They began the work together but C left 2.5 days before the completion of work. In how many days would the work have been completed?

A) 8.5 days

B) 7.5 days

C) 6 days

D) None of these

Question

A certain number of men can finish a piece of work in 100 days. If, however, there are 10 men less, it would take 10 days more for the work to finish. How many men were there initially?

A) 110

B) 90

C) 100

D) None of these

Question

Three pipes A, B and C can fill a cistern in 15, 20 and 30 minutes respectively. They were all turned on at the same time. After 5 minutes, the first two pipes were turned off. In what time will the cistern be filled?

A) 7.5 minutes

B) 5 minutes

C) 13 minutes

D) 12.5 minutes

Question

Three taps A, B and C can fill a cistern in 12, 15 and 40 minutes respectively. They are all turned on but after 4 minutes A and C are turned off. How many more minutes will B take to fill the cistern?

A) 8.5 min

B) 4.5 min

C) 4 min

D) 8 min

Question

Two girls Swathi and Priya can do a work in 8 hours and 12 hours respectively. If they work on alternative hours starting with Swathi at 10 a. m., when will the work be finished?

A) 7.30 p.m.

B) 7.20 p.m.

C) 7 p.m.

D) 2.30 p.m.

Question

In a school, one third of the maths syllabus of 10th class is completed in the first 6 months, with a one hour period every day. If the whole syllabus has to be completed in 9 months, then what should be the duration of the period in the last 3 months?

A) 2 hrs

B) 3 hrs

C) 2.5 hrs

D) 4 hrs

Question

10 men can dig a 25 feet deep well in 8 days. After 2 days, a fifth of the portion dug is filled due to rain. How many more days will the same men take to dig it completely?

A) 1/5 days

B) 1/4 days

C) 2/5 days

D) 3/5 days

Question

A work is completed such that on the nth day from the start, n men join the work force. If one man started the work on the first day and the work is completed in a total of 11 days, then find the number of days in which 11 men working together finish the work?

A) 23 days

B) 11 days

C) 26 days

D) 6 days

Self Assessment

Question

3 men or 5 women can do a job in 12 days. How long will 6 men and 5 women take to finish the job?

A) 5 days

B) 4 days

C) 12 days

D) 8 days

Question

Three pipes A, B and C can fill a tank in 12, 15 and 20 hoursrespectively. Find the time taken to fill the tank, if pipe C is kept open all the time and pipes A and B are opened for one hour each alternatively starting with A.

A) 8 hours

B) 2 hours

C) 4 hours

D) 6 hours

Question

A farmer has sufficient fodder to feed 150 cows for 16 days. How many more days would the fodder last if he had 30 cows less?

A) 20

B) 12

C) 4

D) None of these

Question

15 men work for 21 days for 8 hours every day to complete a piece of work. In how many days of 6 hours each would 21 women be able to complete the same work (3 women do as much work as 2 men)?

A) 45 days

B) 15 days

C) 30 days

D) 20 days

Question

Three pipes with uniform rate of flow fill a tank. The first two pipes operating simultaneously fill the tank in the same time during which the tank can be filled by the third pipe alone. The second pipe fills the tank 5 hours faster than the first pipe and 4 hours slower than the third pipe. Find the time required by first pipe.

A) 12 hours

B) 15 hours

C) 9 hours

D) 20 hours

Question

A sum of money is sufficient to pay Sachin's salary for 45 days and Kale's salary for 60 days. For how many days will the sum of money be enough to pay the salaries of both?

A) 25 days

B) $25\frac{5}{7}$ days

C) $15\frac{5}{7}$ days

D) None of these

Question

Four men and three women can do a job in 6 days. When five men and six women work on the same job, the work gets completed in 4 days. How long will a woman alone take to do the job?

A) 18 days

B) 36 days

C) 54 days

D) None of these

Question

A cashier in a bank can count 100 notes of Rs. 100 denomination in one minute. A counting machine can do the same job in 20 seconds. If they work together, how long does it take to count 100 notes?

A) 15 s

B) 16 s

C) 14 s

D) 12 s

Question

A and B together can do a piece of work in 12 days. B and C together can do the same in 15 days. If A is twice as fast as C, in how much time would B alone complete the work?

A) 60 days

B) 30 days

C) 15 days

D) 20 days

Question

Suresh working alone can audit the company's accounts in 12 days, while Prakash working alone takes 3 more days than Suresh to complete the same task. Suresh and Prakash undertook the job for Rs. 10,800. With the help of Vinod, they finished it in 5 days. How much is paid to Vinod?

A) Rs. 4,500

B) Rs. 2,700

C) Rs. 8,100

D) Rs. 4,200

THANK YOU

FACE Prep