HeMantra EduTech

Math : Time & Work

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CHAIN RULE / COMPOUND PROPORTION

$$M1\ T1\ D1\ W2 = M2\ T2\ D2\ W1$$

Q.1) 36 Men can do a piece of work in 25 hours. In how many hours will 15 men do it?

Q.2) 40 Men can do 10 works in 20 days. Then in how many days will 50 men do 20 works?

Q. 3) 500 Men working 8 hours per day can prepare 5000 toys in 20 days. So in how many days will 800 people working 10 hours per day prepare 8000 toys?

Q.4) If 4/9 of a bucket is filled in 1 minute, the rest of it will be filled in ?

(Hotel Management, 2010)

Q. 5) If 8 men can reap 80 hectares in 24 days, then how many hectares can 36 men reap in 30 days?

Q.6) If 12 carpenters working in 6 hours a day can make 460 chairs in 24 days. How many chairs will carpenter make in 36 days, each working in 8 hours a day?

Q.7

49 pumps can empty a reservoir in $6\frac{1}{2}$ days, working 8 hours a day. If 196 pumps are used for 5 hours each day, then the same work will be completed in

(*a*) 2 days

(*b*) $2\frac{1}{2}$ days

(*c*) $2\frac{3}{5}$ days

(*d*) 3 days

Q.8)

30 labourers, working 7 hours a day can finish a piece of work in 18 days. If the labourers work 6 hours a day, then the number of labourers to finish the same piece of work in 30 days, will be:

(*a*) 15 (*b*) 21

(*c*) 22 (*d*) 25

Q.9)

3 pumps, working 8 hours a day, can empty a tank in 2 days. How many hours a day must 4 pumps work to empty the tank in 1 day?

(*a*) 9 (*b*) 10

(*c*) 11 (*d*) 12

Q. 10)

Ex. 1. *If Roger can do a piece of work in 8 days and Antony can complete the same work in 5 days, in how many days will both of them together complete it?* (L.I.C., 2008)

Q. 11)

Ex. 2. *A and B together can complete a piece of work in 15 days and B alone in 20 days. In how many days can A alone complete the work?* **(S.S.C., 2010)**

Q. 12)

A can do a work in 4 days, B in 5 days and C in 10 days. Find the time taken by A, B and C to do the work together. (P.C.S., 2006)

Q.13) Ram can do a work in 30 days, Shyam in 40 days, and Mohan in 60 days. Find the Time taken by Ram, Shyam and Mohan to do the work together?

Q. 14) A and B can do a piece of work in 20 days. B and C together can do it in 15 days. C and A together can do it in 12 days.

a) Find the time taken by A, B and C to do the work together?
b) In how many days will A alone do this work?
c) In how many days will B alone do this work?
d) In how many days will C alone do this work?
e) In how many days will A and B together complete this work?
f) In how many days will A and C together complete this work?
g) In how many days will B and C together complete this work?
h) Who among these three can complete the work in the minimum time?
i) Who among these three can complete the work in the maximum time?

Q. 15) A can do a work in 20 days, B in 40 days, and C in 50 days. A starts work alone, after 2 days B joins him and now both work together for 2 days. After this A leaves the work. Now B works alone for 2 days. Then C also joins the work with B. Now both work together for 2 days. Now C leaves and A comes back. Now A & B together complete the remaining work. So tell in how many days will the total work be completed?

FOR PRACTICE

Q. 16)

1. Ayesha can complete a piece of work in 16 days. Amita can complete the same piece of work in 8 days. If both of them work together in how many days can they complete the same piece of work?

(Bank P.O., 2010)

(*a*) $4\frac{2}{5}$ days

(*b*) $5\frac{1}{3}$ days

(*c*) 6 days

(*d*) 12 days

(*e*) None of these

Q.17)

A can finish a work in 18 days and B can do the same work in half the time taken by A. Then, working together, what part of the same work they can finish in a day ? **(S.S.C., 2002)**

(*a*) $\frac{1}{6}$ (*b*) $\frac{1}{9}$

(*c*) $\frac{2}{5}$ (*d*) $\frac{2}{7}$

Q.18)

A and B together can complete a work in 12 days, B and C together can complete the same work in 8 days and A and C together can complete it in 16 days. In total, how many days do A, B and C together take to complete the same work?

(Bank P.O., 2009)

(*a*) $3\frac{5}{12}$

(*b*) $3\frac{9}{13}$

(*c*) $7\frac{5}{12}$

(*d*) $7\frac{5}{13}$

(*e*) None of these

Q.19)

A can do a piece of work in 4 hours, B and C together in 3 hours, and A and C together in 2 hours. How long will B alone take to do it? **(S.S.C., 2005)**

(*a*) 8 hours (*b*) 10 hours

(*c*) 12 hours (*d*) 24 hours

Q.20)

A and B can do a work in 8 days, B and C can do the same work in 12 days. A, B and C together can finish it in 6 days. A and C together will do it in

(S.S.C., 2006)

(*a*) 4 days
(*b*) 6 days
(*c*) 8 days
(*d*) 12 days

Q.21)

A and B can do a piece of work in 9 days; B and C can do it in 12 days; A and C can do it in 18 days. In how many days will A, B and C finish it, working together and separately? (S.S.C., 2007)

Q. 22)

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 ?

Q.23)

⅕ of a number is 27, then number is ?

Q.24)

¼ of a number is 27, then ½ of number is ?

Q.25) Two numbers are in the ratio of 5 : 7 and sum of the number is 132, then small number is ? Large number is ?

Q.26) 40 % of a number is 1320, 60% of a number is ?

Q.27) three numbers are in the ratio of 2 : 5 : 7. If the difference of largest & smallest number is 180, then

a) Smallest number ?
b) Largest number ?
c) Sum of all numbers ?
d) Sum of two big numbers?

Q. 28)

. *A can do a certain job in 12 days. B is 60% more efficient than A. How many days does B alone take to do the same job ?*

Q. 29)

A can do a piece of work in 10 days and B in 20 days. They work together but 2 days before the completion of the work, A leaves. In how many days was the work completed ? **(S.S.C., 2008)**

Q.30)

A can complete a work in 10 days, B in 12 days and C in 15 days. All of them began the work together, but A had to leave the work after 2 days of the start and B, 3 days before the completion of the work. How long did the work last? **(S.S.C., 2005)**

Q.31)

A and B can do a piece of work in 45 and 40 days respectively. They began the work together but A leaves after some days and B finished the remaining work in 23 days. After how many days did A leave? (M.B.A., 2009)

Q.32)

A and B working separately can do a piece of work in 9 and 12 days respectively. If they work for a day alternately, A beginning, in how many days, the work will be completed ?

Q.33) A is 20 % less than B, while C is 20 % more than D. If D is 25 % less than A, then which of the following is correct?

A) C = 0.72 B
B) B = 0.675 C
C) C = 0.675 B
D) B = 0.72 C

Q.34)

Two pipes can fill a cistern in 14 hours and 16 hours respectively. The pipes are opened simultaneously and it is found that due to leakage in the bottom it took 32 minutes more to fill the cistern. When the cistern is full, in what time will the leak empty it? **(I.I.F.T., 2005)**

Q.35)

Two pipes A and B can fill a tank in 24 minutes and 32 minutes respectively. If both the pipes are opened simultaneously, after how much time B should be closed so that the tank is full in 18 minutes? (S.S.C., 2006)

- THANK YOU -