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Time and work questions and answers

Time and Work: This topic is very much needed when you want to know how many person can complete the task with in how many days or how long it will take to complete the given work or how much work one person can do etc. for this kind of questions we will provide the short cut way to solve it. 1. If a person can do a piece of work in 'X' days, then person one day work is (1 / X) 2. If a person 1 day's work is (1 / X) then the person will complete the work in 'X' days. 3. While solving the problems assume the work done by person to be equal to 1. Previous year solved Questions: 1. A alone can do a piece of work in 6 days, B alone can do the same work in 12 days. In how many days can A and B together completes the same work? A) 5 days   B) 4 days   C) 3 days   D) 2 days   E) None of these Ans: B Solution: A's 1 day's work = (1 / 6)   B's 1 day's work = (1 / 12)   (A + B)'s 1 day's work = (1 / 6) + (1 / 12) = (1 / 4)   Therefore (A + B) will complete the work in 4 days. 2. 3 men can do a piece of work in 18 days. 6 children can also do that work in 18 days. 4 men and 4 children together will finish the work in how many days? A) 10   B) 6   C) 12   D) 9   E) None of these Ans: D Solution: Required number of days = (2750 / 11) = 25 days = 9 days 3. Ravi gets Rs. 110 for every day that he works. If he earns Rs. 2750 in a month of 31 days, for how many days did he work? A) 25 days   B) 28 days   C) 26 days   D) 24 days   E) None of these Ans: A Solution: Using the below formulae M1D1W2 = M2D2W1   => 3 * 18 * 1 = 6 * D2 *1   => D2 question carries 1 mark Negative marks of Each Questions: 0.25 Skiping questions No marks will deduct. Time allotted : 30 minutes All the questions of time and work problems are formulated as per the latest exam pattern. Time and work questions & answers pdf with solutions gives time and work tricks and methods for problem-solving. Math time and work problem notes provide all formulas and methods for time and work concepts. Time and work quiz is useful to solve objective type questions. Aptitude Questions on Time and Work Time and work questions & answers pdf with solutions contain previous year questions with explanation. Time and work deal with the time taken by an individual or a group of individuals to complete a piece of work and the efficiency of the work done by each of them. Types of Time and Work Questions Find the efficiency of a person To find the time taken by an individual to do a piece of work Find the time taken by a group of individuals to complete a piece of work Work Work done by an individual in a certain time duration Work done by a group of individuals in a certain time duration Thanks for Visit our Website and keep Follow our Site to know our New Updates which are Useful for Your future Competitive Exams. Please share, comment, and like Our post! Moreover, All kinds of important Pdf notes and around 10,00,000 questions and complete General Knowledge Material can be found here. Subject wise Download Links for Handwritten Class Notes and Quizzes in Hindi and English. Disclaimer: All information/materials available on this website or the links provided on the site are for educational and study purposes only. We provide the links which are already available on the internet. However, the content is meant for individual and noncommercial uses only. We don't want to violate any copyright law. These Pdf Notes provided for students who are financially troubled but deserving to learn. Thank you! Share on Twitter Share on Facebook Share on WhatsApp Share on Telegram 1.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.$\dfrac{2}{11}$B.$\dfrac{7}{15}$C.$\dfrac{11}{15}$D.$\dfrac{8}{15}$Answer: Option DExplanation: Solution 1Amount of work P can do in 1 day $=\dfrac{1}{15}$Amount of work Q can do in 1 day $=\dfrac{1}{20}$Amount of work P and Q together can do in 1 day $=\dfrac{1}{15}+\dfrac{1}{20}=\dfrac{7}{60}$Amount of work P and Q together can do in 4 days $=4\times\dfrac{7}{60}=\dfrac{7}{15}$Fraction of work left $=1-\dfrac{7}{15}=\dfrac{8}{15}$Solution 2Let work be 60 unit. If so, P does 4 unit of work in a day and Q does 3 unit of work in a day.Together, they do $4+3=7$ unit of work in a day. Therefore they can complete $7\times4=28$ units of work in 4 days.$60-28=32$ unit of work is remaining.Required fraction $=\dfrac{32}{60}=\dfrac{8}{15}$Solution 3P can complete $\dfrac{4}{15}$ work in 4 days whereas Q can complete $\dfrac{1}{5}$ work in 4 days.Therefore, fraction of work left $=1-\dfrac{4}{15}-\dfrac{1}{5}=\dfrac{8}{15}$.2.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 completes the job in 4 days. How much days does it take for R alone to complete the work?A.10 daysB.$9\dfrac{1}{5}$ daysC.$9\dfrac{2}{5}$ daysD.$9\dfrac{3}{5}$ daysAnswer: Option DExplanation: Solution 1Amount of work P can do in 1 day $=\dfrac{1}{16}$Amount of work Q can do in 1 day $=\dfrac{1}{12}$Amount of work P, Q and R can together do in 1 day $=\dfrac{1}{4}$Amount of work R can do in 1 day $=\dfrac{1}{4}-\left(\dfrac{1}{16}+\dfrac{1}{12}\right)=\dfrac{3}{16}-\dfrac{1}{12}=\dfrac{5}{48}$Hence R can do the job on $\dfrac{48}{5}$ days $=9\dfrac{3}{5}$ daysSolution 2Let the work be 48 unit. Then, P can do 3 unit each day and Q can do 4 unit each day.P and Q together can complete $4(3+4)=28$ unit in 4 days. So the remaining $(48-28)=20$ unit was completed by R in 4 days.That is, R can do $\dfrac{20}{4}=5$ unit in a day. So R alone can complete the work in $\dfrac{48}{5}=9\dfrac{3}{5}$ daysSolution 3P can complete $\dfrac{1}{4}$ of work in 4 days and Q can complete $\dfrac{1}{3}$ of work in 4 days. So, R can complete $1-\dfrac{1}{4}-\dfrac{1}{3}=\dfrac{5}{12}$ of work in 4 days.Therefore, R can complete $\dfrac{5}{48}$ of work in a day. In other words, R can complete the work in $\dfrac{48}{5}=9\dfrac{3}{5}$ days.3.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.15 daysB.9 daysC.10 daysD.14 daysAnswer: Option AExplanation: Solution 1Amount of work P can do in 1 day $=\dfrac{1}{20}$Amount of work Q can do in 1 day $=\dfrac{1}{30}$Amount of work R can do in 1 day $=\dfrac{1}{60}$P is working alone and every third day Q and R is helping himWork completed in every three days $=3\times\dfrac{1}{20}+\dfrac{1}{30}+\dfrac{1}{60}=\dfrac{1}{5}$So work completed in 15 days $=5\times\dfrac{1}{5}=1$That is, the work will be done in 15 daysSolution 2Let the work be 60 unit. Then, P can do 3 unit a day, Q can do 2 unit a day and R can do 1 unit a day.In every 3 days, $3\times3+2+1=12$ unit gets completed (because P does the work and he is assisted by Q and R on every third day)Therefore, in 15 days, $5\times12=60$ unit, entire work, gets completed.4.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.26 daysB.18 daysC.$22\dfrac{1}{2}$ daysD.24 daysAnswer: Option CExplanation: Solution 1If A completes a work in 1 day, B completes the same work in 3 days.This means, difference is 2 days, if B completes the work in 3 daysTherefore, difference is 60 days, if B completes the work in 90 days$\Rightarrow$ Amount of work B can do in 1 day $=\dfrac{1}{90}$Amount of work A can do in 1 day $=3\times\dfrac{1}{90}=\dfrac{1}{30}$Amount of work A and B can together do in 1 day $=\dfrac{1}{90}+\dfrac{1}{30}=\dfrac{4}{90}=\dfrac{2}{45}$Therefore, A and B together can do the work in $\dfrac{45}{2}$ days $=22\dfrac{1}{2}$ daysSolution 2Let B can complete the work in $x$$ days.Due to the inverse relation of time with efficiency,$3:1=x:(x-60)\\\Rightarrow 3(x-60)=x\\\Rightarrow 2x=180\\\Rightarrow x=90$B can complete the work in 90 days. Since A is thrice as good as B, A can complete the work in 30 days.Therefore, together they can do the work in $\dfrac{90\times30}{90+30}=22.5$ days5.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 $3200.$ They completed the work in 3 days with the help of C. How much is to be paid to C?A.$600B.$400C.$380D.$420Answer: Option BExplanation: Solution 1Amount of work A can do in 1 day $=\dfrac{1}{6}$Amount of work B can do in 1 day $=\dfrac{1}{8}$Amount of work A and B together can do in 1 day $=\dfrac{1}{6}+\dfrac{1}{8}=\dfrac{7}{24}$Amount of work A, B and C together did in one day $=\dfrac{1}{3}$Therefore, amount of work C can do in 1 day $=\dfrac{1}{3}-\dfrac{7}{24}=\dfrac{1}{24}$Work A can do in 1 day: work B can do in 1 day: work C can do in 1 day$=\dfrac{1}{6} : \dfrac{1}{8} : \dfrac{1}{24}=4 : 3 : 1$Amount to be paid to C $=3200\times\dfrac{1}{8}=400$Solution 2A worked for 3 days and thus completed half of the work. B worked for 3 days and thus completed $\dfrac{3}{8}$ of the work.So, A and B together could complete $\dfrac{1}{2}+\dfrac{3}{8}=\dfrac{7}{8}$ of the work and remaining $\dfrac{1}{8}$ work was completed by C.So, payment to C $=3200\times\dfrac{1}{8}=400$Solution 3Let work be 48 unit. Then, A does 8 unit a day and B do 6 unit a day. Together they do $8+6=14$ unit a day, or $3\times14=42$ unit in their 3 days. Remaining $48-42=6$ unit was done by CPayment to C $=3200\times\dfrac{6}{48}=400$Set 1Set 2Set 3Set 4Set 5Set 6 In Question no.7, you should ask in how many HOURS will B complete the work, not in how many DAYS because the answer is in Hours (12) not in days. Please slightly modify the statement, if correctThanks Mr.Anil Peshin for pointing this out. It is corrected. Thanks Mr.Anil Peshin for pointing this out. It is corrected. A and B can complete their work in 5 days..A use his double efficiency and B use his half efficiency and complete their work in 4 days..in how many days A alone complete the workA and B can complete their work in 5 days..A use his double efficiency and B use his half efficiency and complete their work in 4 days..in how many days A alone complete the workLet work done by A in 1 day = a (when working in normal efficiency) and work done by B in 1 day = b (when working in normal efficiency) Work done by A and B in 1 day = 1/5 a + b = 1/5 ----(1)Work done by A in 1 day (in double efficiency) = 2aWork done by B in 1 day (in half efficiency) = b/2Work done by A and B in 1 day (A in double efficiency and B in half efficiency) = 1/42a + b/2 = 1/48a + 2b = 1 ----(2)Solving (1) and (2)from (1) 2a + 2b = 2/5 ----(3)(2)-(3) : 6a = 3/5a = 3/30 = 1/10Work done by A in 1 day = 1/10 (when working in normal efficiency) A alone complete the work in 10 days when working in normal efficiency.Let work done by A in 1 day = a (when working in normal efficiency) and work done by B in 1 day = b (when working in normal efficiency) Work done by A and B in 1 day = 1/5 a + b = 1/5 ----(1)Work done by A in 1 day (in double efficiency) = 2aWork done by B in 1 day (in half efficiency) = b/2Work done by A and B in 1 day (A in double efficiency and B in half efficiency) = 1/42a + b/2 = 1/48a + 2b = 1 ----(2)Solving (1) and (2)from (1) 2a + 2b = 2/5 ----(3)(2)-(3) : 6a = 3/5a = 3/30 = 1/10Work done by A in 1 day = 1/10 (when working in normal efficiency) A alone complete the work in 10 days when working in normal efficiency.A can do a piece of work in 14 days which B can do in 21 days .They begin together but 3 days before COMPLETION of the work ,A leaves off. In how many days B will complete remaining work??A can do a piece of work in 14 days which B can do in 21 days .They begin together but 3 days before COMPLETION of the work ,A leaves off. In how many days B will complete remaining work??I think question is wrong. 3 days before COMPLETION of the work ,A leaves off. i.e., work will be completed in 3 days after A leaves?Probably question is to find out the total number of days in which the work will get completedWork done by A in 1 day = 1/14Work done by B in 1 day = 1/21Work done by A&B in 1 day = 1/14 + 1/21 = 5/42B works alone in the last 3 days and completes 3*1/21 = 1/7 of the work.Then, A does 8$ unit a day and B do 6 unit a day. Together they do $8+6=14$ unit a day, or $3\times14=42$ unit in their 3 days. Remaining work = 1 - 1/7 = 6/7Time taken by A&B to do this 6/7 of the work = (6/7)/(5/42) = 36/5 = 7.2Total days needed to complete the work = 7.2+3=10.2 daysI think question is wrong. 3 days before COMPLETION of the work ,A leaves off. i.e., work will be completed in 3 days after A leaves?Probably question is to find out the total number of days in which the work will get completedWork done by A in 1 day = 1/14Work done by B in 1 day = 1/21Work done by A&B in 1 day = 1/14 + 1/21 = 5/42B works alone in the last 3 days and completes 3*1/21 = 1/7 of the work.Remaining work = 1 - 1/7 = 6/7Time taken by A&B to do this 6/7 of the work = (6/7)/(5/42) = 36/5 = 7.2Total days needed to complete the work = 7.2+3=10.2 daysIn the above problem the question is asking about time taken by B to complete remaining work not about total time required...@azhar, time taken by B to complete remaining work is 3 days which is given in the question, isn't it?In the above problem the question is asking about time taken by B to complete remaining work not about total time required...@azhar, time taken by B to complete remaining work is 3 days which is given in the question, isn't it?20 men can complete a task in 40 days. If after every five days two men left. In how many days the work will be completed?20 men can complete a task in 40 days. If after every five days two men left. In how many days the work will be completed?20*40 = 800So20*5 = 100, 18*5= 90, 16*5 = 80, 14*5 =70, 12*5 = 60, 10*5 = 50, 8*5 = 40, 6*5 = 30, 4*5 = 20, 2*5=10Total 100+90+80+70+60+50+40+30+20+10 = 550 & still 250 work is incompleted so no worker no work.20*40 = 800So20*5 = 100, 18*5= 90, 16*5 = 80, 14*5 =70, 12*5 = 60, 10*5 = 50, 8*5 = 40, 6*5 = 30, 4*5 = 20, 2*5=10Total 100+90+80+70+60+50+40+30+20+10 = 550 & still 250 work is incompleted so no worker no work.1234...19Next1-10 of 184 comments (use Q&A for new questions) ? LinkCtrl + LImageCtrl + GTableΩSpecial CharacterCtrl + Q Name Please sign in to post comments