

These Slides Accompany the YouTube Video Tutorial:  
<https://www.youtube.com/watch?v=txDUVXzgNQU>

If Rajesh can build a house in 2 days and his apprentice can build a house in 3 days, then working together, how long will it take them to build the house.

9/9/2016

1

A certain number of small parts need to be produced. 30 parts are scheduled to be produced after each day. After  $\frac{1}{3}$  of the parts are produced, the rate of production increases by 10% thanks to improvement on efficiency. It takes 4 fewer days to produce all the parts than scheduled. How many parts are in total?



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2

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3



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4

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If Rajesh can build *a house in 2 days* and his apprentice can build *a house in 3 days*, then working together, how long will it take them to build the house.

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6/5 days

6

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Student A writes *2 essays each hour*. Student B writes *3 essays each hour*. If they worked together without interfering each other, how long does it take to finish 1 essay

9/9/2016

1/5 days

7

A and B can do a given work in 12 and 18 days respectively. They work alternately for equal period of time. And A started the work. Now, what is the time taken by A and B to complete the job

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14 + 1/3 days

8

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A project can be done by **70 men in 100 days**. There were **80 men** at the start of the project but after **50 days**, 20 of them had to be transferred to another project. How long will it take the remaining workforce to complete the job. (EFFORT)

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50 days

9

8 men can complete a piece of work in 20 days. 8 women can do the same work in 32 days. In how many days will 5 men and 8 women together will complete the same work.

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16 days

10

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An experienced bricklayer can work twice as fast as an apprentice bricklayer. After the bricklayers work together on a job for 6 hrs, the experienced bricklayer quits. The apprentice requires 12 more hours to finish the job. How long would it take the experienced bricklayer, working alone, to do the job?

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15 hours

11

A and B working together can finish painting a home in six days. A working alone can finish it in 5 days less than B. How long will it take each of them to finish the work alone

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$a = 10, b = 15$

12

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Working continuously at its constant rate, machine A takes 3 hours to produce a batch of computer parts. Working continuously at its constant rate, machine B takes 2 hours to produce an identical batch of parts. If in reality machine A needs repairs of 1 min every 10 min and machine B needs break of 2 min every 30 min, how long will it take the two machines to produce the same batch of parts.

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13

A certain number of small parts need to be produced. 30 parts are scheduled to be produced after each day. After  $\frac{1}{3}$  of the parts are produced, the rate of production increases by 10% thanks to improvement on efficiency. It takes 4 fewer days to produce all the parts than scheduled. How many parts are in total?

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1980

14

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**Next Class (Piper and Cisterns):** Two pipes A and B fill a tank in 20 minutes and 40 minutes respectively. A pipe C at the bottom can empty the tank in 60 minutes. If all three pipes were open simultaneously, how long does it take to fill the empty tank?

**Further Ahead(Races, Head Start, Dead Heat):** In a 2000m race between A and B. A gives B a start of a minute but still beats him by 200 m .When he increases the head start to 80 seconds , the race ends in dead heat. Find the speed of A.