

Time and work

Q: 1 ~~1~~ A can complete a task in 20 days, while B can do it in 25 days. How many days will they take together?

Sol:

$$P(A) + P(B) = P(A+B)$$

$$\frac{1}{20} + \frac{1}{25} = \frac{1}{x}$$

$$\frac{5+4}{100} = \frac{1}{x}$$

$$\frac{9}{100} = \frac{1}{x}$$

$$\text{Days } \frac{100}{9} = x$$

LCM

$$\begin{array}{r|l} 2 & 20, 25 \\ 2 & 10, 25 \\ 5 & 5, 25 \\ 5 & 1, 5 \\ & 1, 1 \end{array}$$

$$5 \times 5 = 25$$

$$25 \times 2 = 50$$

$$50 \times 2 = 100$$

simplify it and write the final answer in the form of a statement.

Date: _____

Day: _____

Q #2 A takes 12 days to complete a work, while B takes 18 days. How long will it take if both work together?

Sol:

$$P(A) + P(B) = P(A+B)$$

$$\frac{1}{12} + \frac{1}{18} = \frac{1}{x}$$
$$\frac{3 + 2}{36} = \frac{1}{x}$$

$$\frac{5}{36} = \frac{1}{x}$$

Days $\frac{36}{5} = x$

LCM

$$\begin{array}{r|l} 2 & 12, 18 \\ 3 & 6, 18 \\ 6 & 6, 6 \\ & 1, 1 \end{array}$$

$$6 \times 3 = 18$$

$$18 \times 2 = 36$$