

Question#20484

The time it takes to complete a certain job varies inversely to the number of people

working on that job. If it takes 36 hours for 9 carpenters to frame a house, then how long will it take 63 carpenters to do the same job?*

Solution:

Write equation:

$$T = \frac{x}{N}, \text{ where } T - \text{ is the time, } N - \text{ is the number of people}$$

Such as the 9 carpenters takes the job on 36 hours:

$$36 = \frac{x}{9}$$

$$x = 324$$

The equation showing dependence of the time from the number of people is:

$$T = 324N$$

For the 63 carpenters:

$$T = \frac{324}{63} = 9$$

Answer: 9 hours.