If it takes 15 people 8 hours to make 100 items, how many hours will it take six people working at the same rate to make half as many items?

The Perfect Score, Jan 2004 Paramount Pictures

\[ t = \text{time in hours for six people working at the same rate to make half as many items} \]

\[ \text{Work} = \text{Rate} \times \text{Time} \]

\[ 100 \text{ items} = \text{rate} \times 8 \text{ hours} \]

\[ 100 \text{ items} = \text{rate of work for 15 people} \]

\[ 8 \text{ hours} \]

\[ \frac{100 \text{ items}}{8 \text{ hours} \times 15} = \text{rate of work per person} \]

\[ 5 \text{ items/hour} = \text{rate of work per person} \]

\[ 6 \text{ hours} \]

\[ 5 \text{ items/hour} \times 6 = \text{rate of work per 6 people} \]

\[ 6 \text{ hours} \]

\[ 5 \text{ items/hour} = \text{rate of work for 6 people} \]

\[ \text{Work} = \text{Rate} \times \text{Time} \]

\[ 50 \text{ items} = 5 \text{ items/hour} \times t \]

\[ t = 10 \text{ hours} \]

Coming soon to a theater near you!

Mrs. Drost