



Word Problem with Inversely Proportional Quantities

• Example 1

If 3 people are needed to complete a job in 5 days, how long will it take to complete the job if 5 people are used? Assume that all work is done at the same rate.

1 person would take 15 days because $3 \times 5 = 15$.

2 people would take $7\frac{1}{2}$ days because $\frac{15}{2} = 7\frac{1}{2}$.

⋮
etc.
⋮

5 people would take 3 days because $\frac{15}{5} = 3$.

It would take 3 days if 5 people worked on the job.

● ● ● CHECK YOURSELF 1

If 3 machines are needed to complete a task in 4 days, how long will it take to complete the task if 6 machines are used? Assume the machines work at the same rate.

● ● ● CHECK YOURSELF ANSWER

1. 2 days.

4.1 Exercises

Name _____

Section _____

Date _____

A N S W E R S

1. _____

Assume all rates are the same.

2. _____

1. If 6 water pumps can fill a tank in 18 days, how many days will it take 9 pumps to fill the same tank?

3. _____

4. _____

5. _____

2. It takes 2 people 3 days to mow a lawn. How many days will it take 3 people to mow the same lawn?

6. _____

3. If 3 machines can stamp 150 circuit boards in 1 hour, how long would it take 5 machines to stamp 150 circuit boards?

4. If 2 steam shovels can dig up a stretch of road in 3 days, how many days would it take for 3 steam shovels to dig up the road?

5. If 8 people can make 120 sandwiches in $\frac{1}{2}$ hour, how many hours would it take for 6 people to make 120 sandwiches?

6. If 3 tree-trimmers can trim a grove of trees in 24 work-hours, how many work-hours would it take 8 tree-trimmers to trim the grove?