

EXTRA PRACTICE — Exercises

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Unit VIII – Quadratic Equations

Part C – Problem Solving With Quadratic Relations

Lesson 3 – “Work” Problems

For each of the following story problems, find the fractional equation needed to solve. Then solve and use common sense to check your answer.

1. Gary and his brother Mike run a lawn service and do all the mowing for the local high school. It takes Mike nine hours more than Gary to do the mowing. Working together they can complete the job in twenty hours. How long would it take each, working alone, to do the mowing?
2. Two pipes can fill a tank in one and one-half hours. One pipe requires four hours longer running alone to fill the tank than the other. How long would it take the faster pipe, working alone, to fill the tank?
3. Two men can paint a house in six days working together. If it takes one man five more days to do the work when working alone than it does the other, how many days would each require if doing the job by himself?
4. A farmer contracted the job of grading a township road. After working alone for two days, he hired his neighbor to help him and they completed the work in $5\frac{5}{7}$ days. If the farmer had worked alone, he would have required four less days than his neighbor to do the job. Find the time each would have required to do the work alone.
5. Two computers, A and B, can process the pay roll for a small company in $2\frac{2}{5}$ hours. When working alone, computer A takes two hours longer than computer B to do the job. How long does it take each computer working alone to do the job?

EXTRA PRACTICE — Answer Key

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1. Gary - 36 hours
Mike - 45 hours

2. 2 hours

3. One man by himself = 10 days
Second man by himself = 15 days

4. Neighbor would require 16 days and the farmer would require 12 days.

5. One computer would take 4 hours and the other computer would take 6 hours.