Algebra 1 • Day 85 Practice

Work Problems

Problem 1 • Method 1

Ainsley and Mackenzie are painting their bedroom. Working by herself, Ainsley could paint the room in 3 hours. If Mackenzie worked alone, she could paint the room in 4 hours.

1. Estimate how long you think it will take for them to paint the room together. (No calculating!) Explain your reasoning.

2. Suppose there are multiple bedrooms to paint. (All of these bedrooms are the same size as their bedroom.) How many rooms could Ainsley paint in 12 hours?

3. How many rooms could Mackenzie paint in 12 hours?

4. How many rooms could they paint—while working together—in 12 hours?

5. With your answer to #4 in mind… How long will it take them to paint one room if they work together?

Problem 2 • Method 2

Michael and Robert are building a stone path in Michael's front yard. Michael could build the path in 12 hours. Robert could build the path in 16 hours.

1. Estimate how long you think it will take them to build the stone path together. (No calculating!) Explain your reasoning.

2. What fraction of the stone path could Michael build in one hour? (That is, what is Michael's path−building rate/speed?)

3. What fraction of the stone path could Robert build in one hour? (That is, what is Robert's path−building rate/speed?)

4. What is their *combined* path−building rate/speed?

5. With your answer to #4 in mind… How long will it take them to build one stone path if they work together?

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