

**Directions: Please show all of your work for every problem-solving step. Create a math model and use a strategy to find the result for each question. Carry out your work here and use the back of the paper, if needed. Answer all questions in complete sentences that fully justify and explain your solution.**

Mrs. Marriott is baking muffins for the entire fifth grade class in batches. She can bake 12 muffins per batch. After baking each batch, her husband and two children enter the kitchen and each take one muffin. This process continues as she bakes batches of muffins. There are 52 students in the fifth grade. How many batches will she need to make in order for each student to have at least one muffin?

**\*\*\*Check your work with one other person. If they have something different, write it in pen near your answer because we will discuss them later.\*\*\***

One night a King couldn't sleep, so he went down into the royal kitchen, where he found a bowl full of oranges. Being hungry, he took  $\frac{1}{6}$  of the oranges. Later that same night, the Queen was hungry and couldn't sleep. She, too, found the oranges and took  $\frac{1}{5}$  of what the King had left. Still later, the first Prince awoke, went to the kitchen, and ate  $\frac{1}{4}$  of the remaining oranges. Even later, his brother, the second Prince, ate  $\frac{1}{3}$  of what was then left. Finally, the third Prince ate  $\frac{1}{2}$  of what was left, leaving only three oranges for the servants. How many oranges were originally in the bowl?

**\*\*\*Check your work with one other person. If they have something different, write it in pen near your answer because we will discuss them later.\*\***

## Questions to ask yourself and other students

- What are you picturing in your mind after reading this problem?
- Describe what's going on in this problem to a classmate.
- What is this problem telling you?
- What information is necessary to solve this problem?
- How might you set up this problem?
- What background knowledge is necessary?
- Why are you using that information?
- What ways to solve this problem seem possible?
- What exactly are you doing? (Can you describe it precisely?)
- How are you solving the problem?
- How does this strategy help you?
- How do you know the strategy(ies) will lead you to the correct answer?
- Why are you using that strategy?
- Do your solution(s) seem reasonable?
- How do you know that is the correct answer?