# **Addition Comprehension Check**

1. Use your own words to describe and define addition.
2. Use the finding tens strategy to solve the following problem: 17 + 11.
3. Use the doubles strategy to solve the following problem: 8 + 7.
4. What are friendly numbers?
5. Why should we use friendly numbers when solving problems, especially mentally?
6. Use what you know about friendly numbers to solve the following problem: 34 + 27.
7. Sometimes addition can be written as a “how many more” question. Create your own how many more question below and solve it with an efficient strategy!
8. Use the matching and counting up strategy to solve the following problem: The animal shelter currently has 9 dogs and 14 cats. How many more cats are there than dogs at the animal shelter?
9. Use whatever strategy you want to solve the following problem: 38 + 17. Describe why you chose that strategy.
10. This text focused on describing many addition strategies rather than just one way to add. Why do you think the authors chose to do this?

# **Addition Comprehension Check**

1. Use your own words to describe and define addition.
   1. Addition is represented by the + symbol and can be used to join numbers together. Addition is used to combine.
2. Use the finding tens strategy to solve the following problem: 17 + 11.
   1. Students may draw pictures, use equations, or describe their thinking in words. Students should decompose 17 into 10 and 7 as well as 11 into 10 and 1. They should find 2 tens and 8 ones as 28.
3. Use the doubles strategy to solve the following problem: 8 + 7.
   1. Students will likely add 7 + 7 first to get 14 (a known doubles fact) and then explain they need to add 1 more to get a final sum of 15. Some students might use 8 + 8 as their doubles fact and then subtract one to get a final sum of 15.
4. What are friendly numbers?
   1. Friendly numbers are those you can manipulate and think about easily in your head. In general, groups of 10, 100, 1,000, and so on are friendly numbers because they are easy to use (they end in zero and relate to our place value understanding). In addition, many people think groups of 5 or even 2 can be considered friendly numbers.
5. Why should we use friendly numbers when solving problems, especially mentally?
   1. Friendly numbers can help us think more flexibly and easily, especially in our heads. Because friendly numbers often relate back to our understanding of the base ten number system (groups of 10, 100, etc.), they are easier to use. We can more easily solve complex problems when they have friendly numbers. Mathematicians can use friendly numbers strategically to first solve a problem with simpler numbers and then adjust their answer accordingly.
6. Use what you know about friendly numbers to solve the following problem: 34 + 27.
   1. Students’ answers will vary. Many will look for groups of 10. Students should know 30 + 20 = 50 and 3 + 7 makes a group of 10. They should recognize that they decomposed the 4 from 34 into 3 and 1, so they must add 1 more to their total. The final sum of 34 + 27 is 61.
7. Sometimes addition can be written as a “how many more” question. Create your own how many more question below and solve it with an efficient strategy!
   1. Students’ answers will vary.
8. Use the matching and counting up strategy to solve the following problem: The animal shelter currently has 9 dogs and 14 cats. How many more cats are there than dogs at the animal shelter?
   1. Students will match 9 dogs and 9 cats to see there are 5 cats remaining.
9. Use whatever strategy you want to solve the following problem: 38 + 17. Describe why you chose that strategy.
   1. Students’ answers will vary but they should identify and describe the strategy they used to find 38 + 17 = 55.
10. This text focused on describing many addition strategies rather than just one way to add. Why do you think the authors chose to do this?
    1. Students’ answers will vary. Answers might highlight concepts from the Common Core State Standards for Mathematical Practices, such as looking for and making use of structure and regularity in repeated reasoning. In addition, students might suggest that some strategies work better for certain mathematical situations than others. Mathematicians who think flexibly about numbers and how to approach problems can be more efficient at solving than those who focus on only one method.