## Standards for Mathematical Practice



# Family Guide

As your son or daughter works through homework exercises, you can help him or her develop skills with these Math Practice Standards by asking some of these questions:

#### 1. Make sense of problems and persevere in solving them.

- 1. What are you solving for in the problem?
- 2. Can you think of a problem that you have solved before that is like this one?
- 3. How will you go about solving it? What's your plan?
- 4. Are you making progress toward solving it? Should you try a different plan?
- 5. How can you check your answer? Can you check using a different method?

#### 2. Reason abstractly and quantitatively.

- 1. Can you write or recall an expression or equation to match the problem situation?
- 2. What do the numbers or variables in the equation refer to?
- 3. What's the connection among the numbers and the variables in the equation?

## 3. Construct viable arguments and critique the reasoning of others.

- 1. Tell me what your answer means.
- 2. How do you know that your answer is correct?
- 3. If I told you I think the answer should be (offer a wrong answer), how would you explain to me why I'm wrong?

#### 4. Model with mathematics.

- 1. Do you know a formula or relationship that fits this problem situation?
- 2. What's the connection among the numbers in the problem?
- Is your answer reasonable? How do you know?
- 4. What does the number(s) in your solution refer to?

#### 5. Use appropriate tools strategically.

- 1. What tools could you use to solve this problem? How can each one help you?
- 2. Which tool is more useful for this problem? Explain your choice.
- 3. Why is this tool (the one selected) better to use than (another tool mentioned)?
- 4. Before you solve the problem, can you estimate the answer?

### 6. Attend to precision.

- 1. What do the symbols that you used mean?
- 2. What units of measure are you using? (for measurement problems)
- 3. Explain to me (a term from the lesson).



#### 7. Look for and make use of structure.

- What do you notice about the answers to the exercises you've just completed?
- What do different parts of the expression or equation you are using tell you about possible correct answers?

#### 8. Look for and express regularity in repeated reasoning.

- 1. What shortcut can you think of that will always work for these kinds of problems?
- 2. What pattern(s) do you see? Can you make a rule or generalization?

