High Leverage Assessment - 7 (Proportional Reasoning)

Teacher Note

Please consider:
- Administering the entire grade level HLA three times a year (sometime during the months of September, January, and May).

- Only assign tasks that can be completed in one sitting (i.e., assign half the tasks on one day and the remaining tasks on another day).

- Remind students to show their thinking using models, numbers and/or words.

- Some students may not be ready to solve specific tasks. Please allow them to move on to the next question.

- Over time, you should see progress in the complexity of the strategies and/or models that all students use to demonstrate their mathematical thinking.

Purpose - To Share with Students

"This assessment provides evidence of your growth throughout the school year.

In order to see growth, we have to know how you are thinking about these problems each time you see them. That means that we need to see your thinking in words, models, or numbers.

The strategies that you use to make sense of these problems is what demonstrates growth and is therefore most important to us.

You may use the tools that are always available to you in our classroom, but not a calculator or computer.

I may tell you to move on to another problem if I see sufficient evidence of your strategy. I may also ask a question to better help me understand your strategy. You may or may not have time to finish."

High Leverage Assessment

Name:_____   Teacher:_____   Date:_____

1. A muffin recipe requires $\frac{3}{4}$ cup of sugar and $\frac{1}{3}$ cup of butter.

Travis used 1 cup of butter.

How much sugar does he now need?
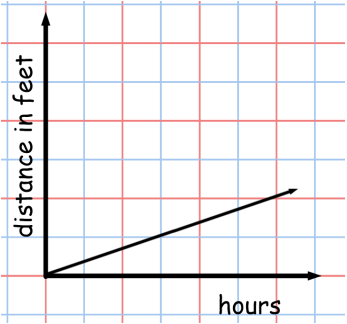
Adapted from IM Cooking With the Whole Cup

High Leverage Assessment

Name:_____   Teacher:_____   Date:_____

2. Here are four relationships. 1 is not a proportional relationship. Identify which is not proportional and explain how you know.

A	
<table><tr><td>pounds of candy</td><td>0</td><td>2</td><td>0.5</td><td>12</td></tr><tr><td>Cost ($)</td><td>0</td><td>5</td><td>1.25</td><td>30</td></tr></table>	
B Jo pays $30 for a skate park pass. Jo pays $5 for each time she visits the park.	
C 	
D In a certain fruit punch recipe for 3 cups of orange juice there are 2 cups of pineapple juice and 1 cup of cranberry juice.	

High Leverage Assessment

Name:_____ Teacher:_____ Date:_____

3. A train is moving at a constant speed and travels 9 kilometers in 6 minutes.

At this rate:

   A. How far does the train travel in 1 minute?

   B. How far does the train travel in 100 minutes?

   C. How long will it take the train to travel 30 km?

High Leverage Assessment

Name:_____   Teacher:_____   Date:_____

4. The length is 15 inches and its height is 5 inches.

length (inches)	15	33	?
height (inches)	5	?	4

a. A photo is enlarged proportionally. It is now 33 inches in length. How tall is the photo?

b. The photo is reduced proportionally. It is now 4 inches tall. How long is the photo?