The MA mathematics standards are important because:

- They explain clear expectations about what students need to know and be able to do in order to be prepared for college and career after high school.
- They align to the expectations of colleges, workforce training programs, and employers.

There is a greater focus on fewer topics each year so students have time to learn mathematics concepts deeply.

Two examples are listed below:

In grade 3, students spend most of their time learning and understanding:
- Multiplication and division within 100
- Fractions as numbers
- Area
- Two-dimensional shapes

In grade 7, students spend most of their time learning and understanding:
- Proportional relationships
- Rational numbers, expressions, equations
- Scale drawings and geometric constructions
- Drawing inferences about populations based on samples
Massachusetts Mathematics Standards

Each year's work builds upon the previous year of learning to lead to readiness for college and careers.

The chart below shows how fractions and multiplication/division of whole numbers progresses from grade 3 to algebra in high school.

<table>
<thead>
<tr>
<th>Grade 3</th>
<th>Grade 5</th>
<th>Grade 7</th>
<th>Grades 8-9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiplication and division of whole numbers; Fractions as numbers</td>
<td>Multiplication and division of fractions</td>
<td>Ratios and proportional relationships</td>
<td>Linear algebra and functions</td>
</tr>
</tbody>
</table>

In addition to understanding math topics, students are still expected to know and apply math facts and math procedures.

At a level appropriate for their grade, students also engage with mathematical practices:

- Making sense of problems and sticking with them until they are solved
- Explaining their math thinking using correct math language
- Representing problems in different ways and using appropriate tools to solve the problems (pictures, equations, graphs, etc.)

Using the new standards, these are the kinds of problems your children will see in their classes.

In grade 3, students learn that a fraction is a number and can be represented on a number line.

In grade 5, students build upon their learning of fractions in grades 3 and 4 to add and subtract fractions with different denominators.
In grade 7, students extend their learning from fractions in elementary grades to ratios, proportions, and percents.

**Skateboard problem 1.** After a 20% discount, the price of a SuperSick skateboard is $140. What was the price before the discount?

![Table showing original price and discounted price]

After a 20% discount, the price is 80% of the original price. So 80% of the original is $140.

In Algebra I, students build upon their understandings of ratios and proportions and extend their learning to linear functions:

*If you earn $7.00 per hour while babysitting, how many hours would you need to work to earn enough for a new $200.00 computer?*

<table>
<thead>
<tr>
<th>Hours worked (x)</th>
<th>Dollars earned (f(x) = 7x)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>28</td>
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<tr>
<td>5</td>
<td>35</td>
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<tr>
<td>10</td>
<td>70</td>
</tr>
<tr>
<td>15</td>
<td>105</td>
</tr>
</tbody>
</table>

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**Citations**

