Lesson: Decimals, Fractions, & Percent

Decimals, fractions, and percent are three different ways to show the relationship of part to whole. The numbers in each row below are written differently but they are equal:

<table>
<thead>
<tr>
<th>Decimal</th>
<th>Fraction</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>1</td>
<td>100%</td>
</tr>
<tr>
<td>0.5</td>
<td>½</td>
<td>50%</td>
</tr>
<tr>
<td>0.25</td>
<td>¼</td>
<td>25%</td>
</tr>
<tr>
<td>0.10</td>
<td>1/10</td>
<td>10%</td>
</tr>
</tbody>
</table>

Tips:

- Each decimal place to the right of the decimal point gets smaller by a power of 10 — tenths, hundredths, thousandths.
- Every fraction can be changed to a decimal by dividing the numerator by the denominator, top by the bottom.
- The percent symbol, %, means “divided by 100.” You can change any percent to a decimal by dividing the number before the symbol by 100.
- Rounding fractions or decimals to whole numbers within the words of a problem can help you see what operation is needed.

Example Questions:

1. You work on a road repair crew. Your crew did 0.1 of the work on Monday, 0.4 of the work on Tuesday, and 0.3 of the work on Wednesday. What percent of the work is not finished?

   A. 0.2
   B. 20%
   C. 0.8
   D. 80%

   The correct answer is B. Add the three decimals to get the total, which is 0.8. The decimal for the whole project is 1.0. So 1.0 - 0.8 = 0.2. If the question asked for a decimal, this is the correct answer. But you need %, so think 0.2 = 0.20 = 20/100 = 20%.

2. A senior citizen is renting a safety deposit box at the bank. She gets a 20% discount. If the normal cost is $75 per year, how much will the customer pay?

   A. $15
   B. $55
   C. $60
   D. $65

   The answer is C. To find the discount, change 20% to a decimal by keying in “20 divided by 100” on your calculator. You get .2. Next multiply .2 by $75 which equals $15. So the customer pays $60 because $75-$15 (the discount) = $60.