

Pre-Algebra Decimal Calculations

Adding and Subtracting Decimals

- Fill in zeroes so that both numbers have the same number of digits after the decimal point.
- Line up the numbers in vertical form.
- Add or subtract.
- Keep the same number of decimals in the result that you have in your vertical form.

Example: $14.02 + 37.1$

$$\begin{array}{r} 14.02 \\ + 37.10 \\ \hline 51.12 \end{array}$$

Multiplying Decimals

- Line up the numbers in vertical form.
- Multiply as you would if the numbers did not have decimals.
- The result (product) will have a number of decimals equal to the sum of the numbers of decimals in the numbers being multiplied. For example, if a number with 3 decimals is multiplied by a number with 2 decimals, the result will have 5 decimals.

Example: $14.02 \cdot 37.1$

$$\begin{array}{r} 14.02 \\ \cdot 37.1 \\ \hline 1402 \\ 9814 \\ 4206 \\ \hline 520.142 \end{array}$$

Dividing Decimals

- **Change the original problem.** Move the decimal in the divisor to the right until the divisor becomes a whole number. Move the decimal to the right in the dividend the same number of decimals.
- **Line up the numbers in long division form.**
- **The decimal in the quotient will be in the same location as it is in the dividend.** Place it there.
- **Divide without regard to the decimal.**
- Check to see if your answer makes sense. Multiply the quotient and the divisor to see their product is equal to the dividend.

Example: $69.615 \div 2.1$

Rewrite: $696.15 \div 21$

$$\begin{array}{r} 33.15 \\ 21 \overline{) 696.15} \\ \underline{63} \\ 6615 \\ \underline{63} \\ 315 \\ \underline{21} \\ 105 \\ \underline{105} \\ 0 \end{array}$$