Name _____ Date _____

1. Estimate. Then, divide using the standard algorithm and check.

a. $45.15 \div 21$ $\approx 44 \div 20 = 44 \div 2 \div 10 = 22 \div 10 = 2.2$

$$\begin{array}{r} 2.15 \\ 21\overline{)45.15} \\ -42 \\ \hline 31 \\ -21 \\ \hline 105 \\ -105 \\ \hline 0 \end{array}$$

Check

$$\begin{array}{r} 2.15 \\ \times \quad 21 \\ \hline 215 \\ +4300 \\ \hline 45.15 \end{array}$$

b. $14.95 \div 65$ $\approx 14 \div 70 = 14 \div 7 \div 10 = 2 \div 10 = 0.2$

$$\begin{array}{r} .23 \\ 65\overline{)14.95} \\ -130 \\ \hline 195 \\ -195 \\ \hline 0 \end{array}$$

Check

$$\begin{array}{r} 0.23 \\ \times \quad 65 \\ \hline 115 \\ +1380 \\ \hline 14.95 \end{array}$$

2. We learned today that division expressions that have the same quotient and remainders are not necessarily equal to each other. Explain how this is possible.

Let's use $2\ R5$ as an example.

Both $17 \div 6$ and $19 \div 7$ have $2\ R5$ as answers. But, when we divide as decimals, this is what we get...

$$\begin{array}{r} 2.8 \\ 6\overline{)17.0} \\ -12 \\ \hline 50 \\ -48 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 2.7 \\ 7\overline{)19.0} \\ -14 \\ \hline 50 \\ -49 \\ \hline 1 \end{array}$$

...this shows the answers are not equal to each other.