

Name _____

Date _____

1. Create two whole number division problems that have a quotient of 9 and a remainder of 5. Justify which is greater using decimal division.

$$\begin{array}{r} 9 \text{ R}5 \\ 8 \overline{)77} \end{array}$$

$$\begin{array}{r} 9 \text{ R}5 \\ 10 \overline{)95} \end{array}$$

$$\begin{array}{r} 9.625 \\ 8 \overline{)77.000} \\ \underline{-72} \\ 50 \\ \underline{-48} \\ 20 \\ \underline{-16} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

$$\begin{array}{r} 9.5 \\ 10 \overline{)95.0} \\ \underline{-90} \\ 50 \\ \underline{-50} \\ 0 \end{array}$$

$8 \overline{)77}$ is greater than $10 \overline{)95}$

2. Divide. Then, check your work with multiplication.

a. $75.9 \div 22$

$$\begin{array}{r} 3.45 \\ \times 22 \\ \hline 690 \\ 6900 \\ \hline 75.90 \end{array}$$

$$\begin{array}{r} 3.45 \\ 22 \overline{)75.90} \\ \underline{-66} \\ 99 \\ \underline{-88} \\ 110 \\ \underline{-110} \\ 0 \end{array}$$

b. $97.28 \div 19$

$$\begin{array}{r} 5.12 \\ 19 \overline{)97.28} \\ \underline{95} \\ 22 \\ \underline{-19} \\ 38 \\ \underline{-38} \\ 0 \end{array}$$

$$\begin{array}{r} 5.12 \\ \times 19 \\ \hline 4608 \\ +5120 \\ \hline 97.28 \end{array}$$

c. $77.14 \div 38$

$$\begin{array}{r} 2.03 \\ 38 \overline{)77.14} \\ \underline{-76} \\ 114 \\ \underline{-114} \\ 0 \end{array}$$

$$\begin{array}{r} 2.03 \\ \times 38 \\ \hline 1624 \\ +6090 \\ \hline 77.14 \end{array}$$

d. $12.18 \div 29$

$$\begin{array}{r} 0.42 \\ 29 \overline{)12.18} \\ \underline{-116} \\ 58 \\ \underline{-58} \\ 0 \end{array}$$

$$\begin{array}{r} 0.42 \\ \times 29 \\ \hline 378 \\ 840 \\ \hline 12.18 \end{array}$$

3. Divide.

a. $97.58 \div 34$

$$\begin{array}{r} 2.87 \\ 34 \overline{)97.58} \\ \underline{-68} \\ 295 \\ \underline{-272} \\ 238 \\ \underline{-238} \\ 0 \end{array}$$

$$\begin{array}{r} 2.87 \\ \times 34 \\ \hline 1148 \\ + 8610 \\ \hline 97.58 \end{array}$$

b. $55.35 \div 45$

$$\begin{array}{r} 1.23 \\ 45 \overline{)55.35} \\ \underline{-45} \\ 103 \\ \underline{-90} \\ 135 \\ \underline{-135} \\ 0 \end{array}$$

$$\begin{array}{r} 1.23 \\ \times 45 \\ \hline 615 \\ + 4920 \\ \hline 55.35 \end{array}$$

4. Use the equations on the left to solve the problems on the right. Explain how you decided where to place the decimal in the quotient.

a. $520.3 \div 43 = 12.1$

$52.03 \div 43 = \underline{1.21}$

The dividend is 10 times smaller, so the quotient will be 10 times smaller, too.

b. $19.08 \div 36 = 0.53$

$190.8 \div 36 = \underline{5.3}$

The dividend is 10 times bigger, so the quotient will be 10 times bigger, too.

5. You can look up information on the world's tallest buildings at <http://www.infoplease.com/ipa/A0001338.html>.

- a. The Aon Centre in Chicago, Illinois, is one of the world's tallest buildings. Built in 1973, it is 1,136 feet high and has 80 stories. If each story is of equal height, how tall is each story?

$$\begin{array}{r}
 14.2 \\
 80 \overline{) 1136.0} \\
 \underline{- 80} \\
 336 \\
 \underline{- 320} \\
 160 \\
 \underline{- 160} \\
 0
 \end{array}$$

Each story is 14.2 feet tall.

- b. Burj al Arab Hotel, another one of the world's tallest buildings, was finished in 1999. Located in Dubai, it is 1,053 feet high with 60 stories. If each floor is the same height, how much taller or shorter is each floor than the height of the floors in the Aon Center?

$$\begin{array}{r}
 17.55 \\
 60 \overline{) 1053.00} \\
 \underline{- 60} \\
 453 \\
 \underline{- 420} \\
 330 \\
 \underline{- 300} \\
 300 \\
 \underline{- 300} \\
 0
 \end{array}$$

Each story is 17.55 feet tall.

$$\begin{array}{r}
 17.55 \\
 \underline{- 14.2} \\
 3.35
 \end{array}$$

The floors of the Burj al Arab Hotel are 3.35 feet taller than the floors of the Aon Center.