

Dividing a Decimal by a Decimal

When you divide by a decimal, you need to rewrite the dividend and the divisor so that you are dividing by a whole number.

Find $4.96 \div 0.8$.

Step 1: Estimate. Use compatible numbers.

Step 2: Make the divisor a whole number. Multiply the divisor AND the dividend by the same power of 10.

Place the decimal point in the quotient.

Step 3: Divide as you would with whole numbers. Remember that sometimes you may need to annex zeros to complete your division.

Step 4: Compare the quotient with your estimate.

$$480 \div 80 = 6$$

$$\begin{array}{r} 0.8 \overline{)4.96} \\ \underline{0.8} \\ 0.96 \\ \underline{0.8} \\ 0.16 \\ \underline{0.16} \\ 0 \end{array}$$

$$\begin{array}{l} 0.8 \times 10 = 8 \\ 4.96 \times 10 = 49.6 \end{array}$$

$$\begin{array}{r} 8 \overline{)49.6} \longrightarrow 8 \overline{)49.6} \\ \underline{48} \\ 16 \\ \underline{16} \\ 0 \end{array}$$

Because 6.2 is close to 6, the answer checks.

Find each quotient.

1. $0.02 \overline{)1.5}$

Estimate: _____

Multiply dividend and divisor by what power of 10? _____

Place the decimal point in the quotient.

Divide. How many zeros do you need to annex? _____

Compare the quotient to your estimate.

Is the answer reasonable? _____

2. $0.06 \overline{)0.36}$

3. $0.04 \overline{)9.6}$

4. $0.75 \overline{)0.03}$

5. Fernando used tenths grids to draw this picture showing $1.6 \div 0.4 = 4$. Draw a picture to show $1.8 \div 0.6$. Write the quotient.

