

Lesson 14: The Division Algorithm—Converting Decimal Division into Whole Number Division Using Fractions

Classwork

Exercises 1–3

Convert the decimal division expressions to fractional division expressions in order to create whole number divisors. You do not need to find the quotients. Explain the movement of the decimal point. **The first exercise has been completed for you.**

1. $18.6 \div 2.3$

$$\frac{18.6}{2.3} \times \frac{10}{10} = \frac{186}{23}$$

$186 \div 23$

I multiplied both the dividend and the divisor by ten, or by one power of ten, so each decimal point moved one place to the right because they grew larger by ten.

2. $14.04 \div 4.68$

3. $0.162 \div 0.036$

Exercises 4–7

Convert the decimal division expressions to fractional division expressions in order to create whole number divisors. Compute the quotients using the division algorithm. Check your work with a calculator.

4. $2,000 \div 3.2$

5. $3,581.9 \div 4.9$

6. $893.76 \div 0.21$

7. $6.194 \div 0.326$

Problem Set

Convert decimal division expressions to fractional division expressions to create whole number divisors.

1. $35.7 \div 0.07$
2. $5,418.54 \div 0.009$

Estimate quotients. Convert decimal division expressions to fractional division expressions to create whole number divisors. Compute the quotients using the division algorithm. Check your work with a calculator and your estimates.

3. Norman purchased 3.5 lb. of his favorite mixture of dried fruits to use in a trail mix. The total cost was \$16.87. How much does the fruit cost per pound?
4. Daryl spent \$4.68 on each pound of trail mix. He spent a total of \$14.04. How many pounds of trail mix did he purchase?