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Unit 5, Lesson 11: Dividing Numbers that Result in Decimals

1. Use long division to show that the fraction and decimal in each pair are equal. *Choose 2!*

a. $\frac{3}{4}$ and 0.75

$$\begin{array}{r} 0.75 \\ 4 \overline{) 3.00} \\ \underline{28} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

b. $\frac{3}{50}$ and 0.06

$$\begin{array}{r} 0.06 \\ 50 \overline{) 3.00} \\ \underline{300} \\ 0 \end{array}$$

c. $\frac{7}{25}$ and 0.28

$$\begin{array}{r} 0.28 \\ 25 \overline{) 7.00} \\ \underline{50} \\ 200 \\ \underline{200} \\ 0 \end{array}$$

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2. Mai walked $\frac{1}{8}$ of a 30-mile walking trail. How many miles did Mai walk? Explain or show your reasoning.

3 times

so $\frac{30}{1} \times \frac{1}{8} = \frac{30}{8} = 3\frac{6}{8} = 3\frac{3}{4}$

OR

$$\frac{30}{8}$$

$$\begin{array}{r} 3.75 \\ 8 \overline{) 30.00} \\ \underline{24} \\ 60 \\ \underline{56} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

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3. Use long division to find each quotient. Write your answer as a decimal. *Choose 2!*

a. $99 \div 12$

$$\begin{array}{r} 8.25 \\ 12 \overline{) 99.00} \\ \underline{96} \\ 30 \\ \underline{24} \\ 60 \\ \underline{60} \\ 0 \end{array}$$

b. $216 \div 5$

$$\begin{array}{r} 43.2 \\ 5 \overline{) 216.0} \\ \underline{20} \\ 16 \\ \underline{15} \\ 10 \\ \underline{10} \\ 0 \end{array}$$

c. $1,988 \div 8$

$$\begin{array}{r} 248.5 \\ 8 \overline{) 1988.0} \\ \underline{16} \\ 38 \\ \underline{32} \\ 68 \\ \underline{64} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

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4. To find the decimal of $\frac{9}{25}$, Tyler reasoned: " $\frac{9}{25}$ is equivalent to $\frac{18}{50}$ and to $\frac{36}{100}$, so the decimal of $\frac{9}{25}$ is 0.36."

a. Use long division to show that Tyler is correct.

$$\begin{array}{r} .36 \\ 25 \overline{) 9.00} \\ \underline{75} \\ 150 \\ \underline{150} \\ 0 \end{array}$$

b. Is the decimal of $\frac{18}{50}$ also 0.36? Use long division to support your answer.

$$\begin{array}{r} .36 \\ 50 \overline{) 18.00} \\ \underline{150} \\ 300 \\ \underline{300} \\ 0 \end{array}$$

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5. Complete the calculations so that each shows the correct difference. Choose 2!

a.

$$\begin{array}{r} ^9 ^9 \\ 5.000 \\ - \boxed{} \boxed{6} \boxed{7} \boxed{1} \\ \hline 4.329 \end{array}$$

b.

$$\begin{array}{r} ^9 ^9 \\ 1.000 \\ - \boxed{} \boxed{9} \boxed{8} \boxed{5} \\ \hline 0.015 \end{array}$$

c.

$$\begin{array}{r} ^9 ^9 \\ 1.000 \\ - \boxed{} \boxed{1} \boxed{3} \boxed{7} \\ \hline 0.863 \end{array}$$

(from Unit 5, Lesson 4)

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6. Use the equation $124 \cdot 15 = 1,860$ and what you know about fractions, decimals, and place value to explain how to place the decimal point when you compute $(1.24) \cdot (0.15)$.

(from Unit 5, Lesson 6)

$$\begin{array}{r} ^2 ^2 \\ 124 \\ \times 15 \\ \hline 620 \\ 1240 \\ \hline 1860 \end{array}$$

$\div 100 \quad \div 100 \quad \div 10000$
 4 places
0.1860

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