

Notes 6-6 - Fulcher

Monday, December 9, 2019 7:12 AM

Use Number Sense to Divide Decimals:

**Lesson 6-6 Use Number Sense to Divide Decimals**

**Solve & Share**  
For the equations below, decide where to place the decimal point in each quotient. Explain your reasoning for one of the equations. Solve these problems any way you choose.

You can use number sense and reasoning to help solve each problem.

16.38 ÷ 0.52 = 31.5  
35.49 ÷ 1.2 = 29.575  
0.4 ÷ 0.32 = 1.25

**Look Back!** **MP.3 Construct Arguments** Explain how you can use number sense to place the decimal point in the equation below.

163.8 ÷ 5.2 = 31.5

① Make the divisor a whole number.  
② Move the decimal in the dividend the same number of places.  
③ Estimate.  
④ With estimates of 70 ÷ 40 the quotient is 31.5.

200 ÷ 50 = 40  
1638 ÷ 52 = X  
1500 ÷ 50 = 30

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①  $16.38 \div 0.52 = 31.5$   
1638 hundredths ÷ 52 hundredths

① Make the divisor a whole number, (twice)

$2000 \div 50 = 40$   
 $1638 \div 52 = X$   
 $1500 \div 50 = 30$

② Move the decimal in the dividend the same number of places. (twice)

③ Estimate

②  $35.49 \div 1.2 = 29.575$   
354.9 tenths ÷ 12 tenths

$360 \div 12 = 30$   
 $354.9 \div 12 = X$   
 $240 \div 12 = 20$

③  $0.40 \div 0.32 = 1.25$   
40 hundredths ÷ 32 hundredths

$60 \div 30 = 2$   
 $40 \div 32 = X$   
 $30 \div 30 = 1$

**How Can You Use Number Sense for Decimal Division?**

How many quarters are in \$15.50? The decimal point is missing in the quotient of the equation below. Use number sense to place the decimal point in the correct position.

$\$15.50 \div \$0.25 = 62.0$

Think about the relative size of the dividend and the divisor.

1. Estimation and number sense are helpful in placing the decimal point in quotients. You know that  $\$15.50 \div 1 = \$15.50$ . Since 0.25 is less than 1, the quotient  $\$15.50 \div \$0.25$  is greater than \$15.50. Since there are 4 quarters in \$1, there are about  $4 \times 15 = 60$  quarters in \$15.50. So, the decimal point is between the 2 and the 0.  $\$15.50 \div \$0.25 = 62.0$ . There are 62 quarters in \$15.50.

2. Where should you place the decimal point in the equation below?  $1.2 \div 2.5 = 4.80$ . You know that  $1.2 \div 1.2 = 1$ . Since the divisor 2.5 is greater than the dividend 1.2, you know that the quotient will be less than 1. Since 1.2 is about half of 2.5, the quotient will be close to 0.5. So, the decimal point is before the 4.  $1.2 \div 2.5 = .480$  or 0.48

**Convince Me!** **MP.3 Critique Reasoning** Malcolm says that  $3.9 \div 0.52$  is about 2. Cory says that the quotient is about 8. Who is correct? Explain your reasoning.

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**Guided Practice**

**Do You Understand?**

1. **MP.2 Reasoning** If the dividend is 2.63 and the divisor is less than 1, what can you say about the quotient?  
The quotient will be greater than the dividend.

2. Lena found that  $1.44 \div 1.2 = 0.12$ . Did she put the decimal point in the correct place? Explain.

**Do You Know How?**

In 3-6, use number sense to decide where the decimal point belongs in the quotient.

3.  $7.68 \div 1.5 = 5.12$   
4.  $256.5 \div 2.5 = 102.6$   
5.  $117.84 \div 3.8 = 29.68$

3.  $7.68 \div 1.5 = 5.12$

$80 \div 20 = 4$   
 $76.8 \div 15 = X$   
 $60 \div 20 = 3$

①  $76.8 \div 15 = 5.12$

