Divide Decimals by Decimals 1

You have learned: • ...how to **divide decimals by whole numbers,** using either mental math or long division.	2.04 ÷ 2 = _____ 0.24 ÷ 6 = _____ 5.2 ÷ 10 = _____ 5.2 ÷ 100 = _____	$7\overline{)17.22}$
• ...how to **divide decimals by decimals mentally**, thinking of *how many times it fits*:	Solve. 2.5 ÷ 0.5 = _____ 0.021 ÷ 0.003 = _____	
But how can we solve divisions where the **divisor is a decimal**, yet the divisor does not fit an even number of times into the dividend? For example: **4.6 ÷ 0.029** or **0.23 ÷ 0.07** ?		
That is based on the following principle: • We can *transform* any decimal division problem into a new problem *with the same answer*, but with a whole-number *divisor*. This new problem can be solved with normal long division.		

1. Solve, thinking how many times the divisor "fits into" the dividend. **What can you notice?**

a. 60 ÷ 20 = _____	**e.** 350 ÷ 50 = _____	**i.** 2,000 ÷ 10 = _____
b. 6 ÷ 2 = _____	**f.** 35 ÷ 5 = _____	**j.** 200 ÷ 1 = _____
c. 0.6 ÷ 0.2 = _____	**g.** 3.5 ÷ 0.5 = _____	**k.** 20 ÷ 0.1 = _____
d. 0.06 ÷ 0.02 = _____	**h.** 0.35 ÷ 0.05 = _____	**l.** 2 ÷ 0.01 = _____

What did you notice?

It is no wonder: 0.02 fits into 0.06 as many times as 2 fits into 6, as many times as 20 fits into 60, or as many times as 200 fits into 600, and so on.

2. Solve the easier of the two problems in each box. The answers to both are the same.

a. 5 ÷ 0.2 = _____ 50 ÷ 2 = _____	**b.** 7 ÷ 0.35 = _____ 700 ÷ 35 = _____	**c.** 36.9 ÷ 3 = _____ 0.369 ÷ 0.03 = _____