Lesson 25: Divide Decimals by Decimals

- Let's divide decimals by decimals.

Warm-up: Number Talk: Same/Different

Find the value of each expression mentally.

- $20 \div 2$

- $2 \div 0.2$

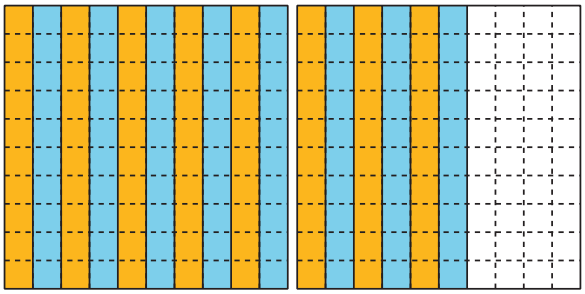
- $50 \div 2$

- $5 \div 0.2$

25.1: Dividing by a Tenth and a Hundredth

1. To find the value of $1.6 \div 0.1$, Jada drew this diagram.

   a. Describe how the diagram shows 1.6.

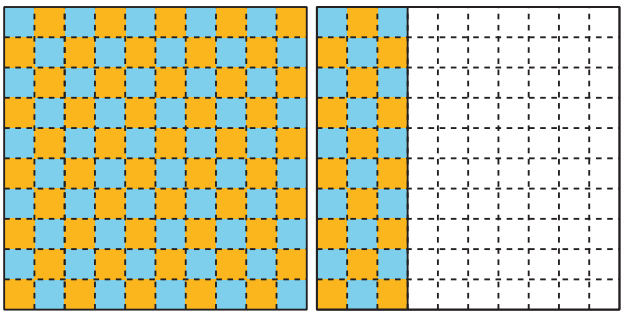


   b. Describe how the diagram shows 16 groups of 1 tenth.

   c. Describe how the diagram shows the value of $1.6 \div 0.1$.

   d. Describe how the diagram also represents the expression $160 \div 10$.

2. Explain how this diagram represents $1.3 \div 0.01$.



   a. What is the value of $1.3 \div 0.01$? Explain or show your reasoning.

25.2: Divide Decimals by Decimals

Find the value of each expression. Explain or show your reasoning.

1. $5 \div 0.1$

2. $5 \div 0.01$

3. $0.5 \div 0.1$

4. $0.5 \div 0.01$

5. $0.02 \div 0.01$

6. $1.53 \div 0.01$

Section Summary

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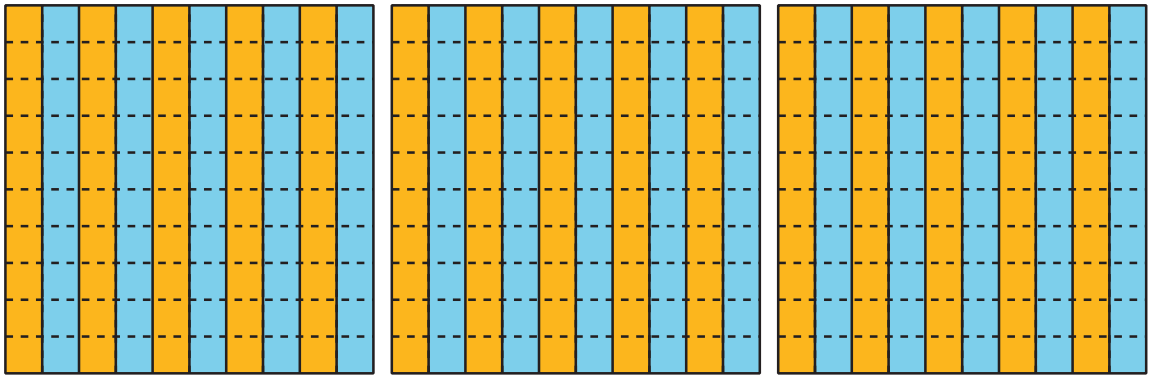
In this section we learned to divide with decimals. We studied different ways to find a quotient like $3 \div 0.1$. We can draw a diagram which shows that there are 10 groups of 0.1 in each whole so there are 3×10 or 30 groups of 0.1 in 3 wholes: $3 \div 0.1 = 30$.



We can also think about place value. We know 3 is 30 tenths and 0.1 is 1 tenth, so $3 \div 0.1$ is equivalent to $30 \div 1$ which has the value 30. We also can use multiplication to find the value of $3 \div 0.1$. We know that $10 \times 0.1 = 1$ and $30 \times 0.1 = 3$ so this also shows that $3 \div 0.1 = 30$.