Dividing Fractions Fluently

ANSWER KEY • Amplify Alignment: Grade 6 Accelerated, Unit 3, Lesson 7

Problems 1–5: Use any strategy to calculate each quotient.

1. $8 \div \frac{1}{4}$ **32**

2. $8 \div \frac{2}{5}$ **20**

3. $3\frac{3}{4} \div \frac{3}{8}$ **10**

4. $\frac{1}{4} \div \frac{2}{3}$ **$\frac{3}{8}$**

5. $2\frac{1}{4} \div \frac{1}{2}$ **$4\frac{1}{2}$**

6. **How many groups of $\frac{2}{3}$ are in $5\frac{1}{3}$?**
8

7. **How many groups of $\frac{2}{3}$ are in $2\frac{1}{2}$?**
$3\frac{3}{4}$

8. **Here are four expressions.**

$\frac{3}{4} \div \frac{1}{2}$ $\frac{3}{4} \div 3$ $\frac{3}{4} \div \frac{1}{8}$ $\frac{3}{4} \div 1$

a Order these expressions by value from least to greatest.

$\frac{3}{4} \div 3 < \frac{3}{4} \div 1 < \frac{3}{4} \div \frac{1}{2} < \frac{3}{4} \div \frac{1}{8}$ $(\frac{1}{4}, \frac{3}{4}, 1\frac{1}{2}, 6)$

b How are these expressions alike? How are they different?

They all divide the same number, $\frac{3}{4}$. The divisors are different. The smaller the divisor, the greater the quotient.

9. **Use the equation $2\frac{1}{2} \div \frac{1}{4} = 10$ to determine $2\frac{1}{2} \div \frac{2}{4}$. Explain your thinking.**

5. The divisor $\frac{2}{4}$ is twice as large as $\frac{1}{4}$, so half as many groups fit: $10 \div 2 = 5$.

10. **Calculate $\frac{5}{3} \div \frac{1}{6}$. Show or explain your thinking.**

$\frac{5}{3} \cdot 6 = \frac{30}{3} = 10$

11. **Here is a list of expressions.**

$6 \times \frac{1}{2}$ $\frac{1}{3} \div \frac{1}{6}$ $\frac{2}{3} \div \frac{2}{9}$ $\frac{3}{4} \div \frac{1}{8}$ $4 \times \frac{1}{2}$ $\frac{1}{2} \div \frac{1}{5}$ $9 \times \frac{1}{3}$ $4 \times \frac{3}{2}$

a Write each expression in the correct column of the table. One of the expressions will not be used.

Value of 2	Value of 3	Value of 6
$\frac{1}{3} \div \frac{1}{6}$ $4 \times \frac{1}{2}$	$6 \times \frac{1}{2}$ $\frac{2}{3} \div \frac{2}{9}$ $9 \times \frac{1}{3}$	$\frac{3}{4} \div \frac{1}{8}$ $4 \times \frac{3}{2}$

b Explain why one of the expressions does not fit in any column.

$\frac{1}{2} \div \frac{1}{5} = \frac{1}{2} \cdot 5 = 2\frac{1}{2}$, which is not 2, 3, or 6.