

Dividing Mixed Numbers

You can follow these steps to find $5\frac{1}{3} \div 1\frac{1}{3}$ and $21 \div 2\frac{1}{3}$.

Step 1	Step 2	Step 3
<p>First estimate. Then write each number as an improper fraction.</p> <p>Find $5\frac{1}{3} \div 1\frac{1}{3}$.</p> <p>Estimate $5 \div 1 = 5$.</p> $5\frac{1}{3} \div 1\frac{1}{3} =$ $\begin{array}{r} \downarrow \quad \downarrow \\ \frac{16}{3} \div \frac{4}{3} \end{array}$	<p>Find the reciprocal of the divisor. Rewrite as a multiplication problem.</p> $\frac{16}{3} \div \frac{4}{3} =$ $\frac{16}{3} \times \frac{3}{4}$	<p>Look for common factors. Simplify, then multiply.</p> $\frac{16}{3} \times \frac{3}{4} =$ $\frac{\overset{4}{\cancel{16}}}{3} \times \frac{\overset{1}{\cancel{3}}}{\underset{1}{\cancel{4}}} = \frac{4}{1} = 4$ <p>4 is close to 5, so the answer is reasonable.</p>
<p>Find $21 \div 2\frac{1}{3}$.</p> <p>Estimate $21 \div 2 = 10\frac{1}{2}$.</p> $21 \div 2\frac{1}{3}$ $\begin{array}{r} \downarrow \quad \downarrow \\ \frac{21}{1} \div \frac{7}{3} \end{array}$	<p>Find the reciprocal of the divisor. Rewrite as a multiplication problem.</p> $\frac{21}{1} \div \frac{7}{3} =$ $\frac{21}{1} \times \frac{3}{7}$	<p>Look for common factors. Simplify, then multiply.</p> $\frac{21}{1} \times \frac{3}{7} =$ $\frac{\overset{3}{\cancel{21}}}{1} \times \frac{\underset{1}{\cancel{3}}}{\underset{1}{\cancel{7}}} = \frac{9}{1} = 9$ <p>9 is close to $10\frac{1}{2}$, so the answer is reasonable.</p>

Find each quotient. Simplify if possible.

1. $2\frac{2}{3} \div 3\frac{1}{4} =$ _____

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

3. $2\frac{1}{5} \div 2\frac{1}{3} =$ _____

4. $5\frac{1}{4} \div 3 =$ _____

5. $10 \div 3\frac{1}{4} =$ _____

6. $7\frac{1}{4} \div 2\frac{1}{8} =$ _____

7. **Writing in Math** Paper needs to be cut for voting ballots. Each piece of paper is $10\frac{1}{2}$ in. long. Each ballot should be $1\frac{3}{4}$ in. long. How many ballots can be cut from one piece of paper?
- _____

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P 5-7

Find each quotient. Simplify if possible.

1. $1\frac{1}{2} \div 2\frac{1}{3} =$ _____

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

3. $2\frac{1}{4} \div 5\frac{1}{2} =$ _____

4. $3\frac{1}{2} \div 2\frac{1}{4} =$ _____

5. $3\frac{3}{4} \div 2 =$ _____

6. $1\frac{1}{2} \div 2\frac{1}{4} =$ _____

7. $8 \div 2\frac{3}{4} =$ _____

8. $2\frac{1}{2} \div 1\frac{3}{8} =$ _____

9. $4\frac{2}{3} \div 1\frac{3}{4} =$ _____

10. **Reasoning** Is it possible to divide 15 by a mixed number and get a quotient that is greater than 15? Explain.

Room	Gallons of Paint
Kitchen	$2\frac{1}{2}$
Bedroom	$3\frac{3}{4}$
Living room	$4\frac{1}{3}$

Max is painting the inside of an apartment complex. The table shows how many gallons of paint are needed to paint each type of room.

11. How many kitchens can Max paint with 20 gal? _____

12. How many living rooms can Max paint with 26 gal? _____

13. How many bedrooms can Max paint with 60 gal? _____

Test Prep

14. Find $4\frac{1}{2} \div 2\frac{1}{4}$.

A. 1

B. 2

C. 3

D. 4

- 15.
- Writing in Math**
- Explain how you would find
- $4\frac{1}{5} \div 2\frac{1}{3}$
- .
