Two numbers are reciprocals if their product is 1. \( \frac{2}{3} \) and \( \frac{3}{2} \) are reciprocals because \( \frac{2}{3} \cdot \frac{3}{2} = \frac{6}{6} = 1 \).

Dividing by a fraction is the same as multiplying by its reciprocal.

\[
\frac{1}{4} \div 2 = \frac{1}{8} \quad \quad \quad \frac{1}{4} \cdot \frac{1}{2} = \frac{1}{8}
\]

So, you can use reciprocals to divide by fractions.

To find \( \frac{2}{3} \div 4 \), first rewrite the expression as a multiplication expression using the reciprocal of the divisor, 4.

\[
\frac{2}{3} \cdot \frac{1}{4}
\]

Then use canceling to find the product in simplest form.

\[
\frac{2}{3} \div 4 = \frac{2}{3} \cdot \frac{1}{4} = \frac{1}{3} \cdot \frac{1}{2} = \frac{1}{6}
\]

To find \( 3\frac{1}{4} \div 1\frac{1}{2} \), first rewrite the expression using improper fractions.

\[
\frac{13}{4} \div \frac{3}{2}
\]

Next, write the expression as a multiplication expression.

\[
\frac{13}{4} \cdot \frac{2}{3}
\]

\[
3\frac{1}{4} \div 1\frac{1}{2} = \frac{13}{4} \div \frac{3}{2} = \frac{13}{4} \cdot \frac{2}{3} = \frac{13}{6} \cdot \frac{1}{3} = \frac{13}{18} = 2\frac{1}{6}
\]

Divide. Write each answer in simplest form.

1. \( \frac{1}{4} \div 3 \)

\[
\frac{1}{4} \div \frac{1}{3}
\]

2. \( 1\frac{1}{2} \div 1\frac{1}{4} \)

\[
\frac{3}{2} \div \frac{5}{4}
\]

3. \( \frac{3}{8} \div 2 \)

\[
\frac{3}{8} \div \frac{1}{4}
\]

4. \( 2\frac{1}{3} \div 1\frac{3}{4} \)

\[
\frac{7}{3} \div \frac{7}{4}
\]

5. \( \frac{1}{5} \div 2 \)

\[
\frac{1}{5} \div \frac{1}{2}
\]

6. \( 1\frac{1}{6} \div 2\frac{2}{3} \)

\[
\frac{7}{6} \div \frac{8}{3}
\]

7. \( \frac{1}{8} \div 4 \)

\[
\frac{1}{8} \div \frac{1}{4}
\]

8. \( 3\frac{1}{8} \div \frac{1}{2} \)

\[
\frac{25}{8} \div \frac{1}{2}
\]