

Try It

Find the quotient. Write fractions in simplest form.

4. $-2.4 \div 3.2$

-0.75

5. $-6 \div (-1.1)$

$5.\overline{45}$

6. $-\frac{6}{5} \div \left(-\frac{1}{2}\right)$

$2\frac{2}{5}$

7. $-\frac{1}{3} \div 2\frac{2}{3}$

$-\frac{1}{8}$

You can represent division involving fractions using *complex fractions*.A **complex fraction** has at least one fraction in the numerator, denominator, or both.**Example 3** Evaluating a Complex Fraction

Evaluate $\frac{-\frac{10}{9}}{-\frac{1}{6} + 1}$.

Write the denominator as a single fraction. Then rewrite the complex fraction as a division expression.

The denominator can be written as $-\frac{1}{6} + 1 = \frac{-1}{6} + \frac{6}{6} = \frac{5}{6}$.

$$\frac{-\frac{10}{9}}{-\frac{1}{6} + 1} = \frac{-\frac{10}{9}}{\frac{5}{6}}$$

$$= -\frac{10}{9} \div \frac{5}{6}$$

$$= -\frac{10}{9} \cdot \frac{6}{5}$$

$$= \frac{2\cancel{10} \cdot \cancel{6}^2}{3 \cdot \cancel{9}^3 \cdot \cancel{5}^1}$$

$$= -\frac{4}{3}$$

Rewrite the denominator as $\frac{5}{6}$.

Rewrite as a division expression.

Multiply by the reciprocal of $\frac{5}{6}$.

Multiply. Divide out common factors.

Simplify.

1
MTR**HELP A CLASSMATE**Help a classmate understand why $-\frac{1}{6}$ can be written as $\frac{-1}{6}$.



Try It

Evaluate the expression. Write fractions in simplest form.

8. $\frac{-\frac{1}{2}}{6}$

$$\frac{-\frac{1}{2} \div 6}{-\frac{1}{12}}$$

9. $\frac{-2\frac{1}{2}}{-\frac{3}{4}}$

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

10. $\frac{-1\frac{2}{3} \cdot \left(-\frac{3}{5}\right)}{\left(\frac{1}{3}\right)^2}$ $\frac{1}{\frac{1}{3} \cdot \frac{1}{3}}$

$$\frac{1}{\frac{1}{9}} = 9$$

In-Class Practice

1 I don't understand yet.

2 I can do it with help.

3 I can do it on my own.

4 I can teach someone else.

11. **WRITING** Explain how to determine whether a quotient of two rational numbers is *positive* or *negative*.

EVALUATING AN EXPRESSION Evaluate the expression. Write fractions in simplest form.

12. $-108 \div 12$

13. $-6.8 \div (-3.6)$

14. $\frac{-\frac{2}{9}}{2\frac{2}{5}}$