

Objective 9
Simplify a complex fraction

PROBLEM

Evaluate:

$$\frac{3 - \frac{3}{8}}{2 - \frac{5}{6}}$$

STEP 1

Simplify the numerator and the denominator of the complex fraction.

$$\frac{3 - \frac{3}{8}}{2 - \frac{5}{6}} = \frac{\frac{24}{8} - \frac{3}{8}}{\frac{12}{6} - \frac{5}{6}} = \frac{\frac{21}{8}}{\frac{7}{6}}$$

STEP 2

Multiply the numerator and the denominator of the complex fraction by the LCM, the least common multiple, of 6 and 8.

The LCM of 6 and 8 is 24.

$$\frac{21}{8} \cdot 24 = \frac{21 \cdot \overset{3}{\cancel{24}}}{\cancel{8}} = 63 \qquad \frac{7}{6} \cdot 24 = \frac{7 \cdot \overset{4}{\cancel{24}}}{\cancel{6}} = 28$$

$$\frac{\frac{21}{8} \cdot 24}{\frac{7}{6} \cdot 24} = \frac{63}{28}$$

STEP 3

Simplify the fraction and write the result as a mixed number.

$$\frac{\overset{9}{\cancel{63}}}{\underset{4}{\cancel{28}}} = \frac{9}{4} = 2\frac{1}{4}$$

ANSWER

$$2\frac{1}{4}$$

Guided Practice:

$$\frac{1/4}{3/8}$$

$$6\frac{1}{3}/9$$

$$\frac{3/5}{4/6}$$

Practice:

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

$$\frac{5}{\frac{3}{4}}$$

$$\frac{7\frac{1}{3}}{3\frac{2}{9}}$$

$$\frac{8\frac{1}{4}}{2\frac{2}{5}}$$

Additional Help:

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