Lesson 2 Reteach

Complex Fractions and Unit Rates

Fractions like $\dfrac{\frac{2}{3}}{4}$ are called complex fractions. **Complex fractions** are fractions with a numerator, denominator, or both that are also fractions.

Example 1

Simplify $\dfrac{\frac{2}{3}}{4}$.

A fraction can also be written as a division problem.

$\dfrac{\frac{2}{3}}{4} = 2 \div \dfrac{3}{4}$ Write the complex fraction as a division problem.

$= \dfrac{2}{1} \times \dfrac{4}{3}$ Multiply by the reciprocal of $\dfrac{3}{4}$, which is $\dfrac{4}{3}$.

$= \dfrac{8}{3}$ or $2\dfrac{2}{3}$ Simplify.

So, $\dfrac{\frac{2}{3}}{4}$ is equal to $2\dfrac{2}{3}$.

Exercises

Simplify.

1. $\dfrac{3}{\frac{1}{3}}$ **9**

2. $\dfrac{5}{\frac{3}{7}}$ $\dfrac{\mathbf{35}}{\mathbf{3}}$ **or** $11\dfrac{2}{3}$

3. $\dfrac{4}{\frac{1}{5}}$ **20**

4. $\dfrac{2}{\frac{4}{9}}$ $\dfrac{\mathbf{9}}{\mathbf{2}}$ **or** $4\dfrac{1}{2}$

5. $\dfrac{1}{\frac{4}{5}}$ $\dfrac{\mathbf{5}}{\mathbf{4}}$ **or** $1\dfrac{1}{4}$

6. $\dfrac{10}{\frac{7}{8}}$ $\dfrac{\mathbf{80}}{\mathbf{7}}$ **or** $11\dfrac{3}{7}$

7. $\dfrac{\frac{3}{5}}{\frac{3}{7}}$ $\dfrac{\mathbf{7}}{\mathbf{5}}$ **or** $1\dfrac{2}{5}$

8. $\dfrac{\frac{1}{6}}{\frac{5}{6}}$ $\dfrac{\mathbf{1}}{\mathbf{5}}$

9. $\dfrac{\frac{4}{5}}{\frac{9}{10}}$ $\dfrac{\mathbf{8}}{\mathbf{9}}$

10. $\dfrac{\frac{3}{5}}{\frac{3}{10}}$ **2**

Lesson 2 Skills Practice

Complex Fractions and Unit Rates

Simplify.

1. $\dfrac{\frac{1}{2}}{\frac{2}{5}}$ $\dfrac{5}{2}$ or $2\dfrac{1}{2}$

2. $\dfrac{\frac{4}{5}}{\frac{1}{8}}$ $\dfrac{32}{5}$ or $6\dfrac{2}{5}$

3. $\dfrac{\frac{4}{3}}{\frac{3}{8}}$ $\dfrac{32}{3}$ or $10\dfrac{2}{3}$

4. $\dfrac{\frac{10}{5}}{\frac{5}{12}}$ 24

5. $\dfrac{\frac{8}{3}}{\frac{3}{4}}$ $\dfrac{32}{3}$ or $10\dfrac{2}{3}$

6. $\dfrac{\frac{1}{5}}{\frac{7}{10}}$ $\dfrac{2}{7}$

7. $\dfrac{\frac{2}{5}}{\frac{4}{9}}$ $\dfrac{9}{10}$

8. $\dfrac{\frac{8}{9}}{20}$ $\dfrac{2}{45}$

9. $\dfrac{\frac{5}{6}}{12}$ $\dfrac{5}{72}$

10. $\dfrac{\frac{3}{8}}{\frac{7}{12}}$ $\dfrac{9}{14}$

11. $\dfrac{\frac{7}{9}}{14}$ $\dfrac{1}{18}$

12. $\dfrac{\frac{6}{7}}{\frac{14}{15}}$ $\dfrac{45}{49}$

13. $\dfrac{\frac{8}{11}}{\frac{4}{5}}$ $\dfrac{10}{11}$

14. $\dfrac{30}{\frac{5}{7}}$ 42

15. $\dfrac{\frac{6}{7}}{21}$ $\dfrac{2}{49}$

16. $\dfrac{15}{\frac{5}{9}}$ 27

17. $\dfrac{\frac{1}{3}}{\frac{8}{9}}$ $\dfrac{3}{8}$

18. $\dfrac{\frac{2}{3}}{\frac{24}{25}}$ $\dfrac{25}{36}$