Unit Rates · Complex Fractions

Complex Fractions: A complex fraction is a fraction in which the_____, _____ or
_____ are fractions. So it is like a fraction in a fraction. To simplify a complex fraction – you
divide the numerator by the denominator (just like we find _____ _____!)

Examples – Simplify each complex fraction below:

1. $\dfrac{\frac{3}{4}}{\frac{5}{6}}$

2. $\dfrac{\frac{2}{5}}{\frac{1}{3}}$

3. $\dfrac{\frac{4}{7}}{\frac{6}{5}}$

Now let's calculate a unit rate that involves a complex fraction:

Example: It takes Mrs. Stephan $\frac{1}{4}$ of an hour to run $1\frac{1}{2}$ miles. What is her unit rate in miles per hour?

Find the unit rate for each scenario below:

1. $\frac{2}{3}$ gallon per half hour, find gallons per hour

2. $2.50 per 5 cans, find price per can

3. $\frac{3}{4}$ cup juice per $\frac{2}{3}$ cup sugar, find cups juice per cup sugar

4. $5 for 4 candy bars, price per candy bar

Table Practice:

1. While remodeling his kitchen, Arthur paints the cabinets. He estimates that he paints 30 square feet every half-hour. How many square feet does Arthur paint per hour?

2. Paige mows $\frac{1}{6}$ acre in $\frac{1}{4}$ hour. How many acres does Paige mow per hour?

3. Two containers filled with water are leaking. Container A leaks at a rate of $\frac{2}{3}$ gallon every $\frac{1}{4}$ hour. Container B leaks at a rate of $\frac{3}{4}$ gallon every $\frac{1}{3}$ hour. Determine which container is leaking water more rapidly.

4. Two liquid storage containers are being filled. Liquid enters the first container at a rate of $\frac{2}{3}$ gallon per $\frac{1}{4}$ minute. Liquid pours into the second storage container at a rate of $\frac{3}{5}$ gallon per $\frac{1}{6}$ minute. Determine which container is being filled faster.