

Bell Ringer

1. **Financial Literacy** Jamal is comparing prices of several different brands of peanuts. Which brand is the best buy? Explain. (Example 2)

Peanuts		
Brand	Size (oz)	Price
Barrel	10	\$3.39
Mr. Nut	14	\$4.54
Chip's	18	\$6.26



Barrel ($\$3.39 / 10 = \$0.34/\text{oz}$; Mr. Nut ($\$4.54 / 14 = \$0.32/\text{oz}$; Chip's ($\$6.26 / 18 = \$0.35/\text{oz}$). Therefore, Mr. Nut is the cheapest.

2. Kelly drove 170 miles in 2.5 hours. If she maintains this same rate, how far will she drive in 4 hours?

272 miles

Complex Fractions and Unit Rates

Complex Fractions - are fractions that contain one or more fractions in the numerator or denominator.

Complex fractions must be simplified, which means the numerator and denominator must be integers.

To simplify

- 1) Write the complex fraction as a division problem
- 2) Change mixed numbers to improper fractions if needed
- 3) Multiply by the reciprocal
- 4) Simplify

Simplify.

$$1) \frac{\frac{2}{3}}{6}$$

$$\frac{2}{\cancel{3}} \div 6 = \frac{2}{\cancel{3}} \cdot \frac{1}{\cancel{6}_3} = \frac{1}{9}$$

Simplify.

$$2) \quad \frac{\frac{1}{5}}{\frac{6}{7}}$$

$$\frac{1}{5} \div \frac{6}{7}$$

$$\frac{1}{5} \cdot \frac{7}{6} = \frac{7}{30}$$

3) Noah can walk $4\frac{1}{2}$ miles in $1\frac{1}{2}$ hours. What is his average speed in mph?

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

$$\frac{9}{2} \div \frac{3}{2}$$

$$\overset{3}{\cancel{9}} \div \overset{3}{\cancel{3}} = 3 \text{ mph}$$
$$3 \text{ mi} / 1 \text{ hr}$$

4) A bag of cat food contains $22 \frac{1}{2}$ cups. The typical cat eats $\frac{3}{4}$ cup of food per day. How many days will the bag last?

$$22 \frac{1}{2} \div \frac{3}{4}$$

$$\frac{45}{2} \div \frac{3}{4}$$

$$\overset{15}{\cancel{45}} \cdot \overset{2}{\cancel{4}} \div \overset{3}{\cancel{3}} \div \overset{1}{\cancel{1}} = 30 \text{ days}$$

Complex Percents

- remember all percents are based out of 100
- complex percents can be changed to fractions

5) Write $10\frac{2}{3}\%$ as a fraction in simplest form.

$$\frac{10\frac{2}{3}}{100} \quad 10\frac{2}{3} \div 100 \quad \frac{8}{3} \cdot \frac{1}{100} = \frac{8}{75}$$

The calculation shows the conversion of $10\frac{2}{3}\%$ to a fraction. The fraction $\frac{10\frac{2}{3}}{100}$ is simplified by dividing the numerator and denominator by 100. The result is $\frac{8}{3} \cdot \frac{1}{100}$, which is then simplified to $\frac{8}{75}$. The simplification steps are indicated by red and blue markings: a blue '8' and a red '16' are shown next to the numerator, and a blue '25' is shown next to the denominator.