

Bell Ringer - Write  $6\frac{1}{4}\%$  as a fraction in simplest form.

$$\frac{25}{4}$$

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$$100$$

$$\frac{\cancel{25}}{4} \cdot \frac{1}{\cancel{100}_4} = \frac{1}{16}$$

## Converting Rates

- rates that have the same value are called equivalent rates
- finding equivalent rates require multiplying by conversion factor(s)
- conversion factors can be found in your assignment notebook or page 201 of your book
- LABELS are important for keeping track of the units of measurement; process called dimensional analysis.

1) A jet flies 540mph. Convert this rate to miles per minute.

$$\frac{540 \cancel{\text{mi}}}{\cancel{1} \text{ hr}} \cdot \frac{\cancel{1} \cancel{\text{hr}}}{60 \text{ min}} = \frac{54}{6} = 9 \text{ mi/min}$$

Method 2

$$540 \div 60 = 9 \text{ mi/min}$$

2) Convert 15 inches to centimeters. Round to the nearest tenth.

$$\frac{15 \cancel{\text{in}}}{1} \cdot \frac{2.540 \text{ cm}}{1 \cancel{\text{in}}} = 38.1 \text{ cm}$$

Method 2

$$\frac{15 \cancel{\text{in}}}{1} \cdot \frac{1 \text{ cm}}{.394 \cancel{\text{in}}} = \frac{15}{.394} = 38.07 \approx 38.1 \text{ cm}$$

3) Convert 6 pints to liters (L). Round to the nearest hundredth.

$$\frac{6 \cancel{\text{pt}}}{1} \cdot \frac{.473 \text{ L}}{1 \cancel{\text{pt}}} = 2.838 \approx 2.84 \text{ L}$$

$$\frac{6 \cancel{\text{pt}}}{1} \cdot \frac{1 \text{ L}}{2.114 \cancel{\text{pt}}} = \frac{6}{2.114} = 2.838 \approx 2.84 \text{ L}$$

4) The air pressure in the balloon is 25 pounds per foot. What is this pressure in ounces per inch?

$$\frac{25 \cancel{\text{lb}}}{1 \cancel{\text{ft}}} \cdot \frac{1 \cancel{\text{ft}}}{12 \text{ in}} \cdot \frac{16 \text{ oz}}{1 \cancel{\text{lb}}} = \frac{400 \text{ oz}}{12 \text{ in}}$$

$$33.3 \text{ oz/in}$$

5) LeBron James' basketball salary is \$20,000,000 per year. Convert this rate to dollars per second.

$$\frac{\$20,000,000}{1 \text{ yr}} \cdot \frac{1 \text{ yr}}{365 \text{ day}} \cdot \frac{1 \text{ day}}{24 \text{ hr}} \cdot \frac{1 \text{ hr}}{60 \text{ min}} \cdot$$

$$\frac{1 \text{ min}}{60 \text{ sec}} = \frac{\$20,000,000}{31,536,000} = \$0.634 =$$

$$\$0.63/\text{sec}$$
$$\$37.80/\text{min}$$