

All work must be shown to receive credit.

1. (5 points) Use dimensional analysis to determine the number of dimes that are equal to 69 quarters.

$$? \text{ dimes} = 69 \text{ quarters} \times \frac{5 \text{ nickels}}{1 \text{ quarter}} \times \frac{1 \text{ dime}}{2 \text{ nickels}} = 172 \text{ dimes}$$

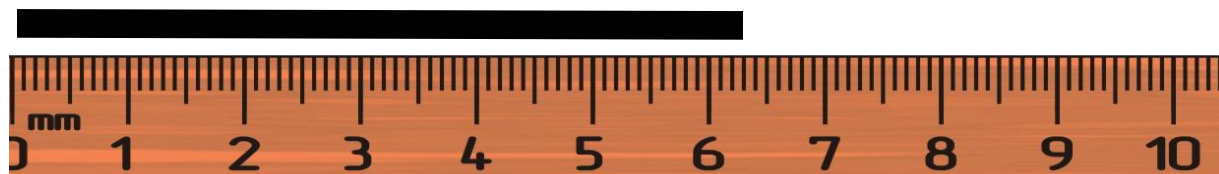
2. (5 points) A barrel holds 36.2 gallons of kerosene. How many liters of kerosene does the barrel hold? (1 gallon = 4 quarts)

$$? L = 36.2 \text{ gal} \times \frac{4 \text{ qt}}{1 \text{ gal}} \times \frac{1 L}{1.06 \text{ qt}} = 161 L$$

3. (5 points) My dog ran 3.22 km this morning. How many mm did my dog run?

$$? \text{ mm} = 3.22 \text{ km} \times \frac{1000 \text{ m}}{1 \text{ km}} \times \frac{1000 \text{ mm}}{1 \text{ m}} = 3.22 \times 10^6 \text{ mm}$$

4. (5 points) The ruler below is calibrated to measure centimeters. How long is the line in cm? **6.29 cm**



All work must be shown to receive credit.

1. (5 points) Use dimensional analysis to determine the number of dimes that are equal to 53 quarters.

$$? \text{ dimes} = 53 \text{ quarters} \times \frac{5 \text{ nickels}}{1 \text{ quarter}} \times \frac{1 \text{ dime}}{2 \text{ nickels}} = 132 \text{ dimes}$$

2. (5 points) A barrel holds 42.7 gallons of kerosene. How many liters of kerosene does the barrel hold? (1 gallon = 4 quarts)

$$? L = 42.7 \text{ gal} \times \frac{4 \text{ qt}}{1 \text{ gal}} \times \frac{1 L}{1.06 \text{ qt}} = 161 L$$

3. (5 points) My dog ran 4.01 km this morning. How many mm did my dog run?

$$? \text{ mm} = 4.01 \text{ km} \times \frac{1000 \text{ m}}{1 \text{ km}} \times \frac{1000 \text{ mm}}{1 \text{ m}} = 4.01 \times 10^6 \text{ mm}$$

4. (5 points) The ruler below is calibrated to measure centimeters. How long is the line in cm? 4.73 cm



