

B: Two term : Three term Ratios Continued

Examples:

1. Use the chart to answer the question.

Coin	Heads	Tails
Nickel	18	12
Dime	2	1
Quarter	24	16

a) Show which coins have equivalent heads to tails ratios.

Find the lowest reduced ratio for each coin.

Nickel

$$18:12$$

$$\div 6 \div 6$$

$$\underline{3:2}$$

Dime

$$2:1$$

lowest form

already

Quarter

$$24:16$$

$$\div 8 \div 8$$

$$\underline{3:2}$$

- Find the ratio that matches.

Nickels are equivalent to quarters.

b) Show the ratio of total tails to total "flips" as a fraction, decimal and percent.

Add all Tails together:

$$\begin{array}{r} 12 \\ 1 \\ + 16 \\ \hline 29 \end{array}$$

Add all flips together:

$$\begin{array}{r} \text{Nickel: } 18 \\ 12 \\ \text{Dime: } 2 \\ \text{Quarter: } 1 \\ 24 \\ 16 \\ \hline 73 \end{array}$$



Fraction \longrightarrow Decimal $\xrightarrow{\times 100}$ Percent

$= \frac{29}{73}$ $\xrightarrow{\substack{\div \text{ top} \\ \text{by} \\ \text{bottom} \\ 29 \div 73}}$ 0.397260274 $\xrightarrow{\substack{\times 100 \\ 0.397260274 \\ \times 100}}$ 39.7260274%

\rightarrow Don't round unless asked.

2. A chemical reaction requires 10 mL of salt, 350 mL of water and 75 mL of chlorine.

a) Write the ratio in lowest terms to compare the three reactants.

Salt : water : chlorine

$10 : 350 : 75$

reduce by \div

$\frac{10}{5} : \frac{350}{5} : \frac{75}{5}$

$2 : 70 : 15$

b) What amounts of salt and chlorine do you need to make a chemical reaction that requires 2100 mL of water?

Set up equivalent ratios

Salt : water

$10 : 350$

$? : 2100$

Re-write as fractions

$\frac{10}{30} = \frac{?}{2100}$

$2100 \div 30 = 70$ So $30 \times 70 = 2100$

$$\frac{10}{30} = \frac{?}{2100}$$

x 70

$$= \frac{700}{2100}$$

700 g of Salt are required.

Chlorine : water
 75 : 350
 ? : 2100

$$\frac{75}{350} = \frac{?}{2100}$$

$$\frac{75}{350} = \frac{?}{2100}$$

x 6

$$= \frac{450}{2100}$$

450 g of chlorine.

Whatever you do to the bottom you gotta do to the top.

Do the same with Chlorine.

Re-write as fractions

$$2100 \div 350 = 6 \quad \text{so } 350 \times 6 = 2100$$

Assignment Pg. 52# [REDACTED]
 12-18, 20, 22, 24, 30

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