TH-PA Pre-Algebra Week 28 4/18

Ratio

part to part

part : part

Fraction

$\frac{\text{part}}{\text{whole}}$

pizza	sundae
𝍸	1
𝍸	
11	

Ratio

pizza : sundae

12 : 1

$\frac{\text{pizza}}{\text{total}} = \frac{12}{13}$

Ramen Truck	Dip n' shot cannon
14	6

Ratio RT : DnSC

14 : 6

÷2 ÷2

7 : 3

Ramen / Dip n' shot $\frac{7}{3} = \frac{126}{x}$

cross multiply

$7x = (3)(126)$

$\frac{7x}{7} = \frac{378}{7}$

$x = 54$

Exceptional Jokes / 2

Awful Jokes / 248

Ratio Ex : Aw

$\frac{2}{2} : \frac{248}{2}$

1 : 124

$$\frac{\text{Exceptional}}{\text{Awful}} = \frac{2}{248} = \frac{30}{x}$$

$2x = (30)(248)$

$\frac{2x}{2} = \frac{7440}{2}$

$x = 3720$

Lemonade

6 pack $4.80

unit price

$\frac{\text{cost}}{\text{bottle}} \rightarrow \frac{\$4.80}{6} =$

$\$0.80$

$0.80 per bottle

20 pack $15.40

$\frac{\text{cost}}{\text{bottle}} = \frac{\$15.40}{20} = \$0.77$

$0.77 per bottle

Which is the better buy?

12 pack of 12 oz bottles for $4.80

$$\frac{\text{cost}}{\text{oz}} \quad \frac{\$4.80}{12 \cdot 12\text{oz}} = \frac{\$4.80}{144\text{ oz}} =$$

$0.033\ldots$

$3.3¢$ per oz

64 oz for $1.60

$$\frac{\text{cost}}{\text{oz}} \rightarrow \frac{\$1.60}{64\text{ oz}}$$

0.025

$2.5¢$ per oz

Proportions

$$\frac{6}{x} \not= \frac{18}{42}$$

$$\frac{6}{x} = \frac{18}{42}$$

$3 \div$

$3 \div$

14

$18x = (6)(42)$

$\frac{18x}{18} = \frac{252}{18}$

$x = 14$

1.) $\frac{12}{21} = \frac{x}{14}$

$21x = (12)(14)$

$\frac{21x}{21} = \frac{168}{21}$

$\boxed{x = 8}$

2.) $\frac{x}{9} = \frac{26}{6}$

$6x = (26)(9)$

$\frac{6x}{6} = \frac{234}{6}$

$\boxed{x = 39}$

$\frac{x+2}{8} = \frac{9}{24}$

$(8)(9) = 24(x+2)$

$72 = 24x + 48$

$-48 \qquad -48$

$\frac{24}{24} = \frac{24x}{24}$

$\boxed{x = 1}$

$5 = 2x + 3$

$-3 \qquad -3$

$\frac{2}{2} = \frac{2x}{2}$

$1 = x$

$$\frac{x+4}{x} \times \frac{2}{3}$$

Distribute

$$3(x+4) = 2x$$

$$3x + 12 = 2x$$
$$-3x \quad -3x$$
$$12 = -x$$
$$\frac{}{-1} \quad \frac{}{-1}$$

$$x = -12$$

$3\bigcirc + \square$

$3x + 12 \neq 15x$

$$\frac{8}{6} = \frac{12}{x-3}$$

$$8(x-3) = (6)(12)$$

$$8x - 24 = 72$$
$$+24 \quad +24$$

$$\frac{8x}{8} = \frac{96}{8}$$

$$x = 12$$

$$x - \frac{1}{3} = \frac{2}{5}$$
$$+\frac{1}{3} \quad +\frac{1}{3}$$