W-PA Pre-Algebra Week 28 4/17

## Ratio

part to part

part : part

## Fractions

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

| pizza | sundae |
|---|---|
| 𝍸 I | III |

Ratio

pizza : sundae

6 : 3

÷3 ÷3

2 : 1

fraction

$\frac{\text{pizza}}{\text{total}} = \frac{6}{9}$

$\frac{2}{3}$

| Ramen Truck | Dip n' shot cannon |
|---|---|
| 14 | 6 |

Ratio RT : DnSC

14 : 6

÷2 ÷2

7 : 3

$\frac{\text{Ramen}}{\text{Dip n' Shot}} = \frac{7}{3} \times \frac{126}{X}$

cross multiply

proportion

$7 * X = 3 * 126$

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

$X = 54$

Exceptional Jokes: 2

Awful Jokes: 248

Ratio Ex : Aw

$2 : 248$

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

$1 : 124$

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

$2x = (30)(248)$

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

$x = 3720$

# Fiji

6 pack $4.80

20 pack $15.40

unit price

$\frac{\text{Cost}}{\text{bottle}} \rightarrow \frac{\$4.80}{6} = \$0.80$

$0.80 per bottle

$\frac{\text{cost}}{\text{bottles}} \rightarrow \frac{\$15.40}{20} =$

$0.77

$0.77 per bottle

Fiji:

Which is the better buy?

12 pack of 12 oz bottles for $4.80

vs 64 oz for $1.60

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

$0.0333...$

$3.3¢$ per oz

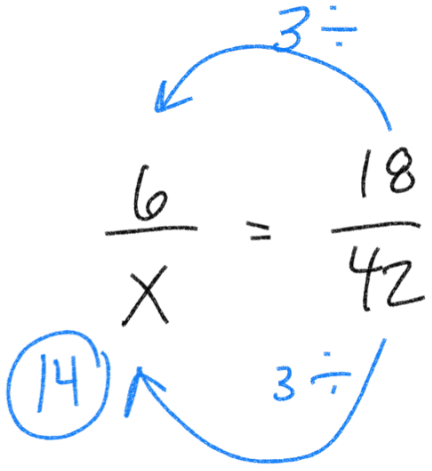
$\frac{\text{cost}}{\text{oz}} = \frac{\$1.60}{64\text{oz}}$

$0.025$

$2.5¢$ per oz

## Proportions

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




$18x = (6)(42)$

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

$x = 14$

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

$(12)(14) = 21x$

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

$x = 8$

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

$(9)(26) = 6x$

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

$39 = x$

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

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

$72 = 24x + 48$

$-48 \qquad -48$

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

$1 = x$

Cross multiply

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

$3(x+4) = 2x$

$3x + 12 = 2x$

$-3x \qquad -3x$

$\frac{12}{-1} = \frac{-x}{-1}$

$x = -12$

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

Distribute

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

$72 = 8x - 24$

$+24 \quad +24$

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

$x = 12$

$\frac{2}{3} = x - \frac{1}{4}$

$+\frac{1}{4} \quad +\frac{1}{4}$