

Double Ratio Number Line:

Ex: Josh spends \$5 for 3 candy bars. He if spent \$45, how many candy bars did he buy?



Tape Models:

Ex: The ratio of boys to girls is 2 to 3. There are a total of 40 boys and girls. How many boys are there?

Boys

Girls

Ex: The ratio of chickens to goats is 8 to 3. If there are 21 goats, how many chickens are there?

Chickens

Goats

Ex: There are 5 pecans for every 3 almonds. There are 18 more pecans than almonds. How many almonds are there?

Pecans

Almonds

Proportions:

Proportion or not?

$$\frac{3}{8} = \frac{2}{5}$$

$$\frac{2}{3} = \frac{4}{6}$$

Labels match up and down or across but not diagonally.

$$\frac{2 \text{ girls}}{5 \text{ boys}} = \frac{8 \text{ girls}}{20 \text{ boys}}$$

or

$$\frac{2 \text{ girls}}{8 \text{ girls}} = \frac{5 \text{ boys}}{20 \text{ boys}}$$

not

~~$$\frac{2 \text{ boys}}{5 \text{ girls}} = \frac{8 \text{ girls}}{20 \text{ boys}}$$~~

Solve each proportion:

$$\frac{2}{5} = \frac{x}{15}$$

$$\frac{8}{10} = \frac{12}{x}$$

$$\frac{2}{7} = \frac{x}{8}$$

Word Problems: 5 bottles can hold 66 ounces of shampoo. How many ounces can 2 bottles hold? Set up a proportion and solve.

Unit Rates:

1 'per' 'each' 'for every'

$$- = \frac{\quad}{1}$$

1 must be in the denominator

Alice can type 300 words in 4 minutes. What is the unit rate of words per minute?

Check your answer by multiplying:

Sandra buys 5 yards of fabric to make 10 change purses. How much fabric does she need for each change purse?

Check your answer by multiplying:

Unit Prices: Cost for 1 item

$$\frac{\$}{\text{item}} = \frac{\$}{1}$$

32 lollipops sell for \$8. What is the unit price?

Find the price per roll to determine which package is the better buy?



\$4.96



\$19.80

Percents:

$$\frac{\textit{is}}{\textit{of}} = \frac{\%}{100}$$

What is 45% of 180?

60% of what number is 18?

What percent of 80 is 124?

$$\frac{\textit{part}}{\textit{whole}} = \frac{\%}{100}$$

There are 80 skittles in a bag. 20% of them are red. How many skittles are red?

A bottle contains 45% pure juice and the rest water. How many ounces of pure juice are in a 30 ounce bottle?

There are 85 kids wearing hats in school today. This is 15% of the student population. How many kids are in the school?