

# Problem Examples

## Example of a problem involving the division of fractions.

Ann has  $3\frac{1}{2}$  lbs of peanuts for the party. She wants to put them in small bags each containing  $\frac{1}{2}$  lb. How many small bags of peanuts will she have?



Students use their knowledge of fractions to see that there are 7 halves in  $3\frac{1}{2}$  lbs, so there will be 7 bags of peanuts.



Students can also find how many halves are in  $3\frac{1}{2}$  by applying the traditional procedure of dividing  $3\frac{1}{2}$  by  $\frac{1}{2}$ .

$$3\frac{1}{2} = \frac{7}{2}$$

$$\frac{7}{2} \div \frac{1}{2} = \frac{7}{2} \times \frac{2}{1} = \frac{14}{2} = 7$$

## Example of a problem involving ratios

A slime mixture is made by mixing glue and liquid laundry starch in a ratio of 3 to 2. How much glue and how much starch are needed to make 90 cups of slime?

**Glue**  **Starch** 

Parts	Quantities
5 parts	90 cups
1 part	$90/5 = 18$ cups
2 parts	$2 \times 18 = 36$ cups
3 parts	$3 \times 18 = 54$ cups



Using knowledge of ratios and proportions, students see that if each cup of slime is made up of 3 parts glue and 2 parts starch, there are 5 parts in each cup. They can then compute the quantity of one, two, and three parts of 90 cups to determine the exact amounts of glue and starch needed.