G5-M4-Lesson 33

> I can represent this story with the expression $\frac{1}{4} \div 3$.

1. Mrs. Brady has $\frac{1}{4}$ liter of juice. She distributes it equally to 3 students in her tutoring group.

   a. How many liters of juice does each student get?

   $\frac{1}{4} \div 3$

   > I can rename 1 fourth as 3 twelfths, so dividing by 3 is easier.

   $= 1 \text{ fourth} \div 3$

   $= 3 \text{ twelfths} \div 3$

   > 3 twelfths divided by 3 is 1 twelfth.

   $= 1 \text{ twelfth}$

   Each student gets $\frac{1}{12}$ liter of juice.

   b. How many more liters of juice will Mrs. Brady need if she wants to give each of the 36 students in her class the same amount of juice found in Part (a)?

   $36 \times \frac{1}{12} \text{ liter}$

   > I can multiply to find how much juice she'll need to serve 36 students.

   $= \frac{36 \times 1}{12} \text{ liters}$

   $= \frac{36}{12} \text{ liters}$

   > Mrs. Brady will need 3 liters of juice for 36 students.

   $= 3 \text{ liters}$

   $3 \text{ liters} - \frac{1}{4} \text{ liter} = 2\frac{3}{4} \text{ liters}$

   > I subtract to find out how much more juice she'll need.

   Mrs. Brady will need an additional $2\frac{3}{4}$ liters of juice.

2. Austin buys $16.20 worth of grapefruit. Each grapefruit costs $0.60.

a. How many grapefruits does Austin buy?

> To find how many grapefruits Austin buys, I use the total cost divided by the cost of each grapefruit.

$$\$16.20 \div \$0.60$$

$$= \frac{16.2}{0.6} \times \frac{10}{10}$$

> I multiply the fraction by 1, or $\frac{10}{10}$, to get a denominator that is a whole number.

$$= \frac{162}{6}$$

$$= 27$$

$$\begin{array}{r} 2\ \ 7 \\ 6\overline{\smash{\big)}\ 1\ \ 6\ \ 2} \\ -\ \ 1\ \ 2 \\ \hline 4\ \ 2 \\ -\ \ 4\ \ 2 \\ \hline 0 \end{array}$$

> I use the long division algorithm to solve 162 divided by 6. The answer is 27.

Austin buys 27 grapefruits.

b. At the same store, Mandy spends one third as much money on grapefruit as Austin. How many grapefruits does she buy?

> Since Mandy spent $\frac{1}{3}$ as much money on grapefruit as Austin, that means she's buying $\frac{1}{3}$ the number of grapefruit.

$$27 \div 3 = 9$$

Mandy buys 9 grapefruits.

> To find one third of a number, I can multiply by $\frac{1}{3}$ or divide by 3.

Lesson 33:   Create story contexts for numerical expressions and tape diagrams, and solve word problems.

EUREKA
MATH