Practice Dividing a Unit Fraction by a Whole Number

Study the Example showing one way to solve a word problem involving dividing a fraction by a whole number. Then solve problems 1–5.
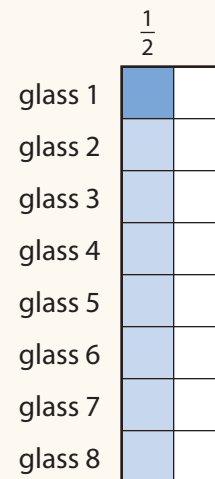
EXAMPLE

Felicia makes $\frac{1}{2}$ gallon of fruit punch. She pours an equal amount into 8 glasses. What fraction of a gallon of fruit punch is in each glass?

Find $\frac{1}{2} \div 8$.

The model shows a rectangle divided into halves and then divided into 8 equal parts. There are a total of 16 parts, and one part is the amount of fruit punch in 1 glass.
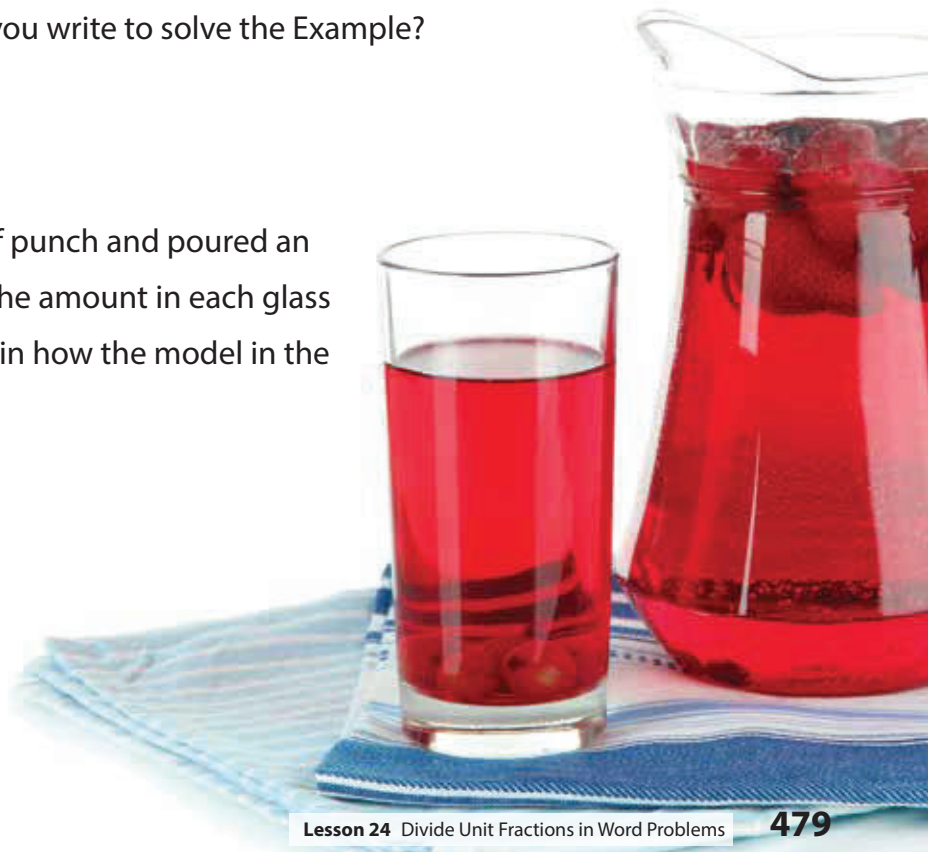
$$\frac{1}{2} \div 8 = \frac{1}{16}$$

The amount in 1 glass is $\frac{1}{16}$ gallon.

	$\frac{1}{2}$	
glass 1		
glass 2		
glass 3		
glass 4		
glass 5		
glass 6		
glass 7		
glass 8		

1 What multiplication equation could you write to solve the Example?

2 Suppose Felicia had made $\frac{1}{4}$ gallon of punch and poured an equal amount into 8 glasses. Would the amount in each glass be more or less than $\frac{1}{16}$ gallon? Explain how the model in the Example would change to show this.

3 Donal buys a $\frac{1}{4}$-pound package of cheese. There are 8 slices of cheese in the package. Each slice has the same weight. What fraction of a pound is each slice? Draw a model and write a division equation to represent and solve the problem.

Solution ....

4 Student volunteers are getting ready to hand out programs at a talent show. Leah and Tomas are each given $\frac{1}{2}$ of a stack of programs to hand out. Leah divides her $\frac{1}{2}$ equally among herself and 2 friends. What fraction of the original stack of programs do Leah and her 2 friends each have? Show your work.

Solution ....

5 Look at problem 4. If Tomas divides his stack of programs between himself and his 3 friends, what fraction of the original stack will each of his friends have? Write a division equation to represent and solve the problem.

Solution ....