



CCSS: 7.EE.B.4: Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. Also, 7.EE.B.4a.

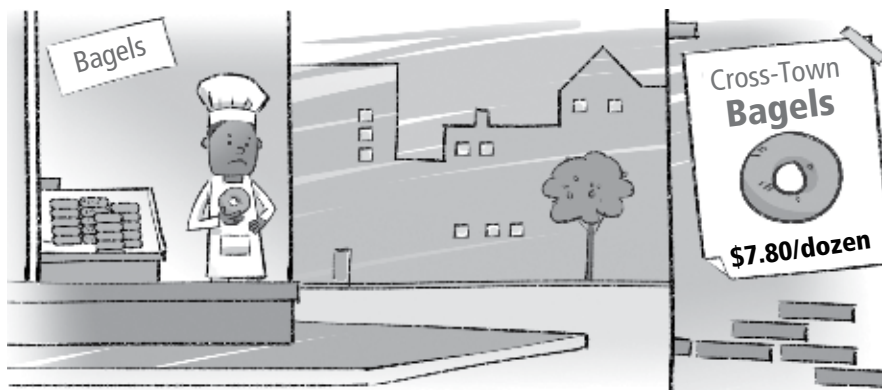
## Launch

SAMPLE SOLUTIONS ARE SHOWN BELOW.

MP1, MP7

A shaky egg bagel baker just wants to keep things equal. What should he charge for one bagel to match his cross-town rival?

Write and solve an equation to help him out. Explain your reasoning.



Let  $b$  represent the cost of one bagel. You can represent the problem as  $12 \cdot b = 7.80$ .

To solve, you need to find the cost of one bagel.

$$\frac{12 \cdot b}{12} = \frac{7.80}{12}$$

$$b = 0.65$$

One bagel costs \$0.65. The baker should charge 65¢ to match his rival.

**Reflect** Can you represent this problem with more than one equation? Explain.

Sample: You can use any of the four operations. So, you could write the equation  $7.80 \div 12 = b$  to represent the problem.

# Got It?

## PART 1 Got It



Solve the equation  $b - 2 = -10$ .

$$b = -8$$

## PART 2 Got It



Solve the equation  $\frac{m}{0.5} = 11$ . Check your answer.

$$m = 5.5$$

## PART 3 Got It



Which equation(s) have the same solution as  $2.5a = 30$ ?

I.  $\frac{4}{3}a = 16$

II.  $a - 22.25 = -10.25$

both I and II

# Close and Check



## Focus Question

© MP1, MP7

How can writing two equivalent expressions help you solve a problem?

Sample: You can write an equation by writing two equivalent expressions. Then you can apply the same operation to each side of an equation to get a simpler equivalent equation.



## Do you know HOW?

1. Solve the equation  $g + 12 = 18$ .

$$g = 6$$

2. Solve the equation  $4r = -1.6$ .

$$r = -0.4$$

3. Solve the equation  $\frac{w}{2.5} = 9$ .

$$w = 22.5$$

4. Which equation(s) has the same solution as  $\frac{d}{6} = 7.3$ ?

A.  $d - 15.9 = 27.9$

B.  $2d = 87.2$

C.  $-49 + d = 5$

D.  $\frac{d}{4} = 10.95$



## Do you UNDERSTAND?

SAMPLE SOLUTIONS ARE SHOWN BELOW.

5. **Vocabulary** What does it mean to isolate the variable?

Isolating the variable means the variable is by itself on one side of the equal sign and the numbers are on the other side.

6. **Error Analysis** A classmate solves the equation shown below. Explain her error and find the correct solution.

$$\begin{aligned} 5t &= 65 \\ 5(5t) &= 65(5) \\ t &= 325 \end{aligned}$$

She should have divided by 5 on both sides instead of multiplying. The correct solution is  $t = 13$ .