Unit 4 Lesson 2: Truth and Equations

1 Three Letters (Warm up)

Student Task Statement

1. The equation $a + b = c$ could be true or false.

    a. If a is 3, b is 4, and c is 5, is the equation true or false?

    b. Find new values of a, b, and c that make the equation true.

    c. Find new values of a, b, and c that make the equation false.

2. The equation $x \cdot y = z$ could be true or false.

    a. If x is 3, y is 4, and z is 12, is the equation true or false?

    b. Find new values of x, y, and z that make the equation true.

    c. Find new values of x, y, and z that make the equation false.

2 Storytime

Student Task Statement

Here are three situations and six equations. Which equation best represents each situation? If you get stuck, consider drawing a diagram.

$$x + 5 = 20 \qquad x = 20 + 5 \qquad 5x = 20$$

$$x + 20 = 5 \qquad 5 \cdot 20 = x \qquad 20x = 5$$

1. After Elena ran 5 miles on Friday, she had run a total of 20 miles for the week. She ran x miles before Friday.

2. Andre's school has 20 clubs, which is five times as many as his cousin's school. His cousin's school has x clubs.

3. Jada volunteers at the animal shelter. She divided 5 cups of cat food equally to feed 20 cats. Each cat received x cups of food.

3 Using Structure to Find Solutions

Student Task Statement

Here are some equations that contain a **variable** and a list of values. Think about what each equation means and find a **solution** in the list of values. If you get stuck, consider drawing a diagram. Be prepared to explain why your solution is correct.

1. $1000 - a = 400$

2. $12.6 = b + 4.1$

3. $8c = 8$

4. $\frac{2}{3} \cdot d = \frac{10}{9}$

5. $10e = 1$

6. $10 = 0.5f$

7. $0.99 = 1 - g$

8. $h + \frac{3}{7} = 1$

List: $\frac{1}{8}$ $\frac{3}{7}$ $\frac{4}{7}$ $\frac{3}{5}$ $\frac{5}{3}$ $\frac{7}{3}$ 0.01   0.1   0.5

1   2   8.5   9.5   16.7   20   400   600   1400