

# Activity 13 Assessment

## Variables and Equations Consolidation

### Solving Inequalities

Recognizes inequality symbols and their meaning in various inequality equations

$$m > 6$$

$$m \geq 6$$

“Each time, the unknown can be any number greater than 6. In the second equation, it could also be 6. There are many quantities that would work.”

Represents solutions to simple inequalities by graphing on a number line and testing solutions.

$$\blacksquare + 3 \leq 10$$

$$\blacksquare \leq 7$$



“The unknown plus 3 needs to be less than or equal to 10. I could count on 7 from 3 to get 10. So, I know the unknown must be 7 or less.”

Uses inverse operations to re-write inequalities, then solves.

$$\blacksquare + 3 \leq 10$$

$$\blacksquare \leq 10 - 3$$



Flexibly solves inequalities, then verifies and graphs the solutions.

$$18 - m < 8$$

“What numbers can I take away from 18 for the answer to be less than 8?”

I can rearrange the equation to find the unknown:  $18 - 8 < m$



### Observations/Documentation

# Activity 13 Assessment

## Variables and Equations Consolidation

### Solving Unknowns in Equations

Uses concrete materials to “guess and check.”



“I know that 3 multiplied by 4 is 12.”

Draws and interprets pictures using a balance model.



$$3 \times \blacksquare = 6$$

“I placed 1 in each group until the pans balanced;  
 $\blacksquare = 2$ ”

Decomposes and recomposes numbers.

$$3 \times 8 = \blacksquare$$

$$3 \times 8 = (2 \times 8) + (1 \times 8)$$

$$(2 \times 8) + (1 \times 8) = 16 + 8$$

$$16 + 8 = 24$$

“I can decompose the equation into parts that can help me solve for the unknown.”

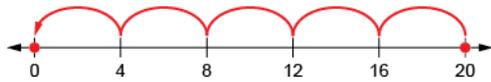
### Observations/Documentation

# Activity 13 Assessment

## Variables and Equations Consolidation

### Solving Unknowns in Equations (con't)

Uses relationships and properties of operations (inverse operations, associative property).



$$20 = 4 \times \blacksquare$$

"I rewrote the equation as a division equation:  
 $20 \div 4 = \blacksquare$ ."

Writes a statement for a given equation and solves for the unknown.

$$\blacksquare \div 6 = 3$$

"I had a bag of baby carrots. I shared them equally with me and 5 friends and we each ended up with 3. How many baby carrots were in the bag to start?"

Flexibly uses multiple strategies to solve equations.

$$\blacksquare \times 2 = 30 - 4$$

"I know something times 2 is equal to 26, because  $30 - 4$  is 26.  
 I can rewrite using division:  $26 \div 2 = \blacksquare$ . So, the unknown is 13."

### Observations/Documentation