Lesson 25: Finding Solutions to Make Equations True

Classwork

Opening Exercise

Identify a value for the variable that would make each equation or inequality into a true number sentence. Is this the only possible answer? State when the equation or inequality is true using equality and inequality symbols.

* 1. $3+g=15$
	2. $30>2d$
	3. $\frac{15}{f}<5$
	4. $42\leq 50-m$

Example 1

Each of the following numbers, if substituted for the variable, makes one of the equations below into a true number sentence. Match the number to that equation: $ 3$, $6$, $15$, $16$, $44$.

* 1. $n+26=32$
	2. $n-12=32$
	3. $17n=51$
	4. $4^{2}=n$
	5. $\frac{n}{3}=5$

Lesson Summary

**Variable:** A *variable* is a symbol (such as a letter) that represents a number (i.e., it is a placeholder for a number).

A variable is a placeholder for “a number” that does not “vary.”

**Expression:**  An *expression* is a numerical expression or a result of replacing some (or all) of the numbers in a numerical expression with variables.

**Equation:**  An *equation* is a statement of equality between two expressions.

If $A$ and $B$ are two expressions in the variable $x$, then $A=B$ is an equation in the variable $x$.

Problem Set

Find the solution to each equation.

1. $4^{3}=y$
2. $8a=24$
3. $32=g-4$
4. $56=j+29$
5. $\frac{48}{r}=12$
6. $k=15-9$
7. $x∙\frac{1}{5}=60$
8. $m+3.45=12.8$
9. $a=1^{5}$