

Lesson Summary

NUMBER SENTENCE: A *number sentence* is a statement of equality (or inequality) between two numerical expressions.

TRUTH VALUES OF A NUMBER SENTENCE: A number sentence that is an equation is said to be *true* if both numerical expressions evaluate to the same number; it is said to be *false* otherwise. True and false are called *truth values*.

Number sentences that are inequalities also have truth values. For example, $3 < 4$, $6 + 8 > 15 - 12$, and $(15 + 3)^2 < 1000 - 32$ are all true number sentences, while the sentence $9 > 3(4)$ is false.

Problem Set

Substitute the value into the variable, and state (in a complete sentence) whether the resulting number sentence is true or false. If true, find a value that would result in a false number sentence. If false, find a value that would result in a true number sentence.

1. $3\frac{5}{6} = 1\frac{2}{3} + h$. Substitute $2\frac{1}{6}$ for h .

2. $39 > 156g$. Substitute $\frac{1}{4}$ for g .

3. $\frac{f}{4} \leq 3$. Substitute 12 for f .

4. $121 - 98 \geq r$. Substitute 23 for r .

5. $\frac{54}{q} = 6$. Substitute 10 for q .

Create a number sentence using the given variable and symbol. The number sentence you write must be true for the given value of the variable.

6. Variable: d Symbol: \geq The sentence is true when 5 is substituted for d .

7. Variable: y Symbol: \neq The sentence is true when 10 is substituted for y .

8. Variable: k Symbol: $<$ The sentence is true when 8 is substituted for k .

9. Variable: a Symbol: \leq The sentence is true when 9 is substituted for a .