

## Lesson 24: True and False Number Sentences

### Classwork

#### Opening Exercise

State whether each number sentence is true or false. If the number sentence is false, explain why.

a.  $4 + 5 > 9$

b.  $3 \cdot 6 = 18$

c.  $32 > \frac{64}{4}$

d.  $78 - 15 < 68$

e.  $22 \geq 11 + 12$

#### Example 1

Write true or false if the number substituted for  $g$  results in a true or false number sentence.

Substitute $g$ with	$4g = 32$	$g = 8$	$3g \geq 30$	$g \geq 10$	$\frac{g}{2} > 2$	$g > 4$	$30 \geq 38 - g$	$g \geq 8$
8								
4								
2								
0								
10								

**Example 2**

State when the following equations/inequalities will be true and when they will be false.

a.  $r + 15 = 25$

b.  $6 - d > 0$

c.  $\frac{1}{2}f = 15$

d.  $\frac{y}{3} < 10$

e.  $7g \geq 42$

f.  $a - 8 \leq 15$

**Exercises**

Complete the following problems in pairs. State when the following equations and inequalities will be true and when they will be false.

1.  $15c > 45$

2.  $25 = d - 10$

3.  $56 \geq 2e$

4.  $\frac{h}{5} \geq 12$

5.  $45 > h + 29$

6.  $4a \leq 16$

7.  $3x = 24$

Identify all equality and inequality signs that can be placed into the blank to make a true number sentence.

8.  $15 + 9 \underline{\hspace{1cm}} 24$

9.  $8 \cdot 7$  \_\_\_\_\_  $50$

10.  $\frac{15}{2}$  \_\_\_\_\_  $10$

11.  $34$  \_\_\_\_\_  $17 \cdot 2$

12.  $18$  \_\_\_\_\_  $24.5 - 6$