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.

* 1. $4+5>9$
	2. $3∙6=18$
	3. $32>\frac{64}{4}$
	4. $78-15<68$
	5. $22\geq 11+12$

**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.

* 1. $r+15=25$
	2. $6-d>0$
	3. $\frac{1}{2}f=1$5
	4. $\frac{y}{3}<10$
	5. $7g\geq 42$
	6. $a-8\leq 15$

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

1. $45>h+29$
2. $4a\leq 16$
3. $3x=24$

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

1. $15+9$ \_\_\_\_\_\_ $24$
2. $8∙7$ \_\_\_\_\_\_ $50$
3. $\frac{15}{2}$ \_\_\_\_\_\_$10$
4. $34$ \_\_\_\_\_\_$17∙2$
5. $18$ \_\_\_\_\_\_ $24.5-6$

Problem Set

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

1. $36=9k$
2. $67>f-15$
3. $\frac{v}{9}=3$
4. $10+b>42$
5. $d-8\geq 35$
6. $32f<64$
7. $10-h\leq 7$
8. $42+8\geq g$
9. $\frac{m}{3}=14$