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. $32 > \dfrac{64}{4}$

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

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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. $15 + 9$ _____ 24

9. $8 \cdot 7$ _____ 50

10. $\dfrac{15}{2}$ _____ 10

11. 34 _____ 17 · 2

12. 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. $\dfrac{v}{9} = 3$

4. $10 + b > 42$

5. $d - 8 \geq 35$

6. $32f < 64$

7. $10 - h \leq 7$

8. $42 + 8 \geq g$

9. $\dfrac{m}{3} = 14$