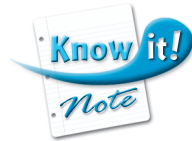




Solving Absolute-Value Equations and Inequalities



Lesson Objectives (p. 150):

Vocabulary

1. Disjunction (p. 150): _____

2. Conjunction (p. 150): _____

3. Absolute value (p. 151): _____

Key Concepts

4. Absolute Value (p. 151):

WORDS	NUMBERS	ALGEBRA

5. Absolute-Value Equations and Inequalities (p. 151):

For all real numbers x and all positive real numbers a :		



Solving Absolute-Value Equations and Inequalities



Lesson Objectives (p. 150):

solve compound inequalities; write and solve absolute-value equations and inequalities.

Vocabulary

1. Disjunction (p. 150): a compound statement that uses the word *or*.
2. Conjunction (p. 150): a compound statement that uses the word *and*.
3. Absolute value (p. 151): the distance from number to zero on the number line.

Key Concepts

4. Absolute Value (p. 151):

WORDS	NUMBERS	ALGEBRA
The absolute value of a real number x , $ x $, is equal to its distance from zero on a number line.	$ 5 = 5$ $ -5 = 5$	$ x = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x < 0 \end{cases}$

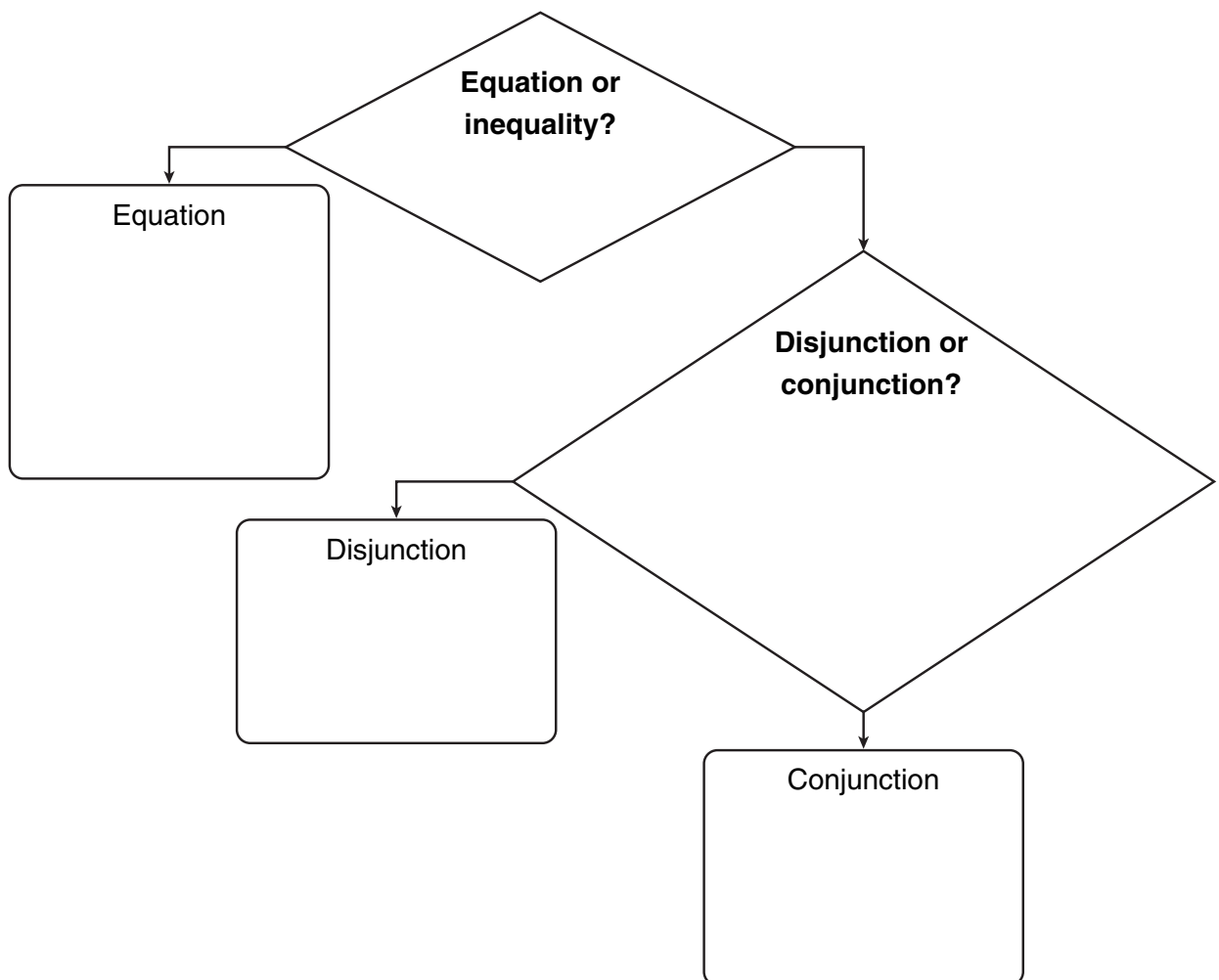
5. Absolute-Value Equations and Inequalities (p. 151):

For all real numbers x and all positive real numbers a :		
$ x = a$ $x = -a$ OR $x = a$	$ x < a$ $x > -a$ AND $x < a$ $-a < x < a$	$ x > a$ $x < -a$ OR $x > a$

6. Solving an Absolute Value Inequality (p. 152):

TO SOLVE AN ABSOLUTE-VALUE INEQUALITY
1.
2.
3.

7. **Get Organized** Use the flowchart to explain the decisions and steps needed to solve an absolute-value equation or inequality. (p. 153).



6. Solving an Absolute Value Inequality (p. 152):

TO SOLVE AN ABSOLUTE-VALUE INEQUALITY
1. Isolate the absolute-value expression, if necessary.
2. Rewrite the absolute-value expression as a compound inequality.
3. Solve each part of the compound inequality for x .

7. **Get Organized** Use the flowchart to explain the decisions and steps needed to solve an absolute-value equation or inequality. (p. 153).

