

**Section 1.4 Guided Notebook****Section 1.4 Absolute Value Equations and Inequalities**

Read the list of “THINGS TO KNOW” and review any unfamiliar concepts.

**Section 1.4 Objective 1: Solve Absolute Value Equations**

What is an **absolute value**?

Watch the concept video on page 1.4-3 and describe, in your own words, how absolute value can be applied to all algebraic expressions

Write down the **Absolute Value Equation Property**.

**Example 1:**

Study the solution for Example 1 on page 1.4-4 and record the answer below.

Solve:  $|m + 4| = 8$

**Example 2:**

Complete Example 2 on page 1.4-5 on your own. Check your answer by clicking on the link. If your answer is incorrect, watch the video to find your error.

Solve:  $|1 - 3x| = 4$

## Section 1.4

### **Example 3:**

Complete Example 3 on page 1.4-6 on your own. Check your answer by clicking on the link. If your answer is incorrect, watch the video to find your error.

Solve:  $|2x - 5| = 0$

Read and summarize the CAUTION statement on page 1.4-7 in your own words.

Write down the **Strategy for Solving Absolute Value Equations**.

Step 1.

Step 2.

Step 3.

Step 4.

### **Example 6:**

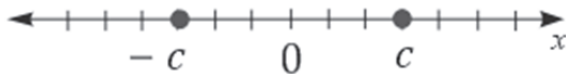
Complete Example 6 on page 1.4-10 on your own. Check your answer by clicking on the link. If your answer is incorrect, watch the video to find your error.

Solve:  $-3|2 - m| + 8 = 2$

**Section 1.4 Objective 2: Solve Absolute Value Inequalities**

Watch the concept animation on page 1.4-11 and answer the following questions.

1. If  $|u|$  and  $c$  are real numbers, what does the **trichotomy property** state?
2. Use a red pen to indicate which values are less than  $c$  units away from 0 on the number line. Use a blue pen to indicate which values are more than  $c$  units away from 0 on the number line.



Write down the **Absolute Value Inequality Property**.

1.

2.

**Example 7:**

Complete Example 7 on page 1.4-14 on your own. Check your answer by clicking on the link. If your answer is incorrect, watch the video to find your error.

Solve:  $|2m - 1| \leq 5$

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### **Example 8:**

Complete Example 8 on page 1.4-15 on your own. Check your answer by clicking on the link. If your answer is incorrect, watch the video to find your error.

Solve:  $|5x+1| > 3$

Read and summarize the CAUTION statement on page 1.4-15 in your own words.

Write down the **Strategy for Solving Absolute Value Inequalities**.

Step 1.

Step 2.

Step 3.

### **Example 9:**

Study the solution for Example 9 on page 1.4-17.

### **Example 10:**

Complete Example 10 on page 1.4-18 on your own. Check your answer by clicking on the link. If your answer is incorrect, watch the video to find your error.

Solve:  $5|1-2x|-3 > 12$