

Activity 2: Integers – What’s My Sign?

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CALCULATORS: Casio: *fx-260 Solar* • Casio: *fx-260 Solar School*

Teaching Notes

Grade Level: Middle School **Topic:** Integers

Objective: *To find the sum of integers.*

Using the Activity:

The first part of this activity demonstrates how to enter an integer into the *fx-260*. To enter -3 , press **3 +/-**. The +/- key is the change of sign key and changes a positive number to a negative number and vice versa.

The second part of the activity is designed to have students discover the rule for adding integers. Students are expected to use number sense and reasoning to complete the activity. Have students complete exercises 1-5 on their *fx-260*. Have them compare their results and answer the questions following the exercises.

Answers:

	Enter	Display
1.	$21 + 7 =$	28
2.	$-21 + -7 =$	- 28
3.	$-21 + 7 =$	-14
4.	$21 + -7 =$	14
5.	$-21 + 21 =$	0

How are the first two examples the same? *The addends being added in each example have the same sign.* How did the calculator compute the sums? *The addends were added and the sum has the same sign as the addends.*

How are the last three examples different from the first two examples? *The addends being added have different signs.* Were the sums computed in the same way? *No.*

How did the calculator compute the last sums?

The calculator ignored the sign and the addends were subtracted. The sum then has the sign of the addend further from zero. In the last example, the addends are equally distant from zero, therefore the sum is zero. You may wish to demonstrate the reasoning for these sums by modeling the results on a number line.

	Enter	Prediction	Calculator’s Answer
6.	$-64 + -88 =$		-152
7.	$64 + -88 =$		-24

To extend students thinking on adding integers, give additional exercises to practice the rule.

Can you find the Missing Number?

These exercises focus on number sense and addition of integers. Ask students to look at the sum and addends in each exercise. Based on the sign of the sum, ask students to make predictions about the sign of the missing addend.

1. $32 + -43 + ? = 8$ $? = 19$ 2. $-70 + ? + -62 = 18$ $? = 150$

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Student Worksheet Activity 2

Enter **3** into the *fx-260* scientific calculator.

Press **+/-**. What is displayed? _____

Press **+/-** again. What is displayed? _____

What do you think the **+/-** key on the calculator does?

Enter each equation into the *fx-260* using the **+/-** key as needed. Record the sum displayed.

	Enter	Display
1.	$21 + 7 =$	
2.	$- 21 + -7 =$	
3.	$- 21 + 7 =$	
4.	$21 + - 7 =$	
5.	$- 21 + 21 =$	

Study each display.

How are the first two examples the same? _____

How did the calculator compute the sums? _____

How are the last three examples different from the first two examples?

Were the sums computed in the same way? _____

How did the calculator compute the last sums? _____

According to your observations, what do you think the sums for the following exercises are?
Verify your predicted answers with your calculator.

	Enter	Prediction	Calculator’s Answer
6.	$- 64 + - 88 =$		
7.	$64 + - 88 =$		

Can you find the Missing Number?

Use your *fx-260* to determine the missing numbers in each display.

1. $32 + - 43 + ? = 8$ $? =$ **2.** $- 70 + ? + -62 = 18$ $? =$