Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

UNIT 3 LESSON 1

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| AIM: | SWBAT find absolute value of numbers |

**THINK ABOUT IT!**

Use the number line below to answer the following prompts

0

1

2

3

4

5

1. Labeling the number line has been started for you. Label all the hash marks to the left of 0.
2. What is the relationship between 2 and -2?

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1. Name two numbers that have the same distance from 0.

Conjecture

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| Opposites have the same ­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_ value. |

**Test the Conjecture**

*Test the Conjecture #1)* What are the absolute values of -6 and 6?

*Test the Conjecture #2)*What are the absolute values of –(–18) and (–18)

**PARTNER PRACTICE**

* CFS for top quality work
  + Number line is drawn
    - As a straight line with arrows on both sides
    - With a consistent scale
    - And is clearly labeled
    - Absolute value notation is used when appropriate

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| *Bachelor Level* |

1. Plot each number provided on a number line and plot its opposite as well. Make sure that you pick an appropriate scale
2. -4
3. 24
4. What is the absolute value of -9? Prove your answer using a number line.
5. What is the opposite of 0? Why?

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1. Which set of numbers have the same absolute value? Select all that apply.
2. -3 and 4
3. 2 and -2
4. -3 and 3
5. -7 and 7

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| *Master Level* |

1. Create a number line and plot the number –(–7)

What is the absolute value of –(–7)? Explain how you know.

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**INDEPENDENT PRACTICE**

* CFS for top quality work
  + Number line is drawn
    - As a straight line with arrows on both sides
    - With a consistent scale
    - And is clearly labeled
    - Absolute value notation is used when appropriate

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| *Bachelor Level* |

1. Complete the number line below by labeling each interval

0

9

15

1. Create a number line and plot the following numbers. Be sure to pick an appropriate scale.

-6, 8, -10, 6, -2, 4

Which number that you plotted has the greatest absolute value? How do you know?

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1. Create a number line and plot the opposite of -16

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| *Master Level* |

1. Which equation below is a true statement?
2. |-2| = -2
3. |5| = -5
4. |-(-4))| = -4
5. |-(-10)| = 10
6. Edwina’s teacher asked her what the absolute value of 12 is. Edwina told her that the absolute value of 12 is -12 because they are opposites. Is she correct? Explain.

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1. Create a number line and plot the opposites of the numbers listed below. Pick an appropriate scale.

-5, -(-2), 0, |-7|, -(-(-9))

4) Plot the following numbers on a number line. Create an appropriate scale.

-45, 19, 55, -15, -11, 35

5) In Juneau, Alaska last year, they had some wacky weather in the winter. Create a number line with an appropriate scale and plot the temperatures recorded in the table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Date** | Nov. 12 | Dec. 1 | Jan. 5 | Jan. 27 | Feb. 4 |
| **Temperature (°F)** | 18 | -5 | -12 | -17 | 6 |

n is an integer. Pick a value for n such that its opposite is greater than 0. Explain how you know.

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| *PhD Level* |

6) Create a number line and plot the fractions below

3 ½, 2 ¼, -3 ½, -2 ¼, -5 ¾

What is the opposite of -5 ¾?

Which numbers on the number line you created have the same absolute value?

7) Create a number line and plot the decimals below

2.5, 3.9, 0.1, -2.5, -3.9, -1.3, -9.25

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**EXIT TICKET**

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| Self-assessment | I mastered the learning objective today. | I am almost there. | Need more practice and feedback. |
| Teacher feedback | You mastered the learning objective today. | You are almost there. | You need more practice and feedback. |

1. Plot the following integers on the number line and label them using the designated letter.

**A: -3 B: -2 C: |5| D: -4**

0

1. 0 is located between points b and c. The scale of the number line is one unit.



* 1. What are the values of points a, b, c, and d
  2. What is the relationship between points a and d? How do you know?

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* 1. Does 0 have an opposite? If so, what is it? If not, why not?

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1. Explain why the following statement is true: the absolute value of -5 is 5 and the absolute value of 5 is 5.

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