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

UNIT 3 LESSON 6

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| AIM: | SWBAT plot rational numbers on a number line |

**THINK ABOUT IT!**

Mia lives in Portland, Maine. On Monday, she went outside at 12:00 PM and noticed that the temperature was 1 ¼°F. Later in the day, she checked the temperature again and noticed that the temperature dropped to -1 ¼°F.

1. Create a number line and plot both temperatures
2. Explain how you determined the location of -1 ¼°F

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Key Point

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| Negative \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are located the same distance to the left of 0 as their opposite. |

**Interaction with New Material**

Ex. 1) When the stock market crashed in 2008, Nia’s account balance for her investments changed daily. Below, the table records how her balance changed each day for a week.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Day | Mon | Tues | Wed | Thurs | Fri |
| Account Balance | -2 ½  | -3.15 | 0.2 |  | -0.05 |

Create a number line and plot each change to her account balance.

**PARTNER PRACTICE**

* CFS for top quality work
	+ Number line is drawn neatly and accurately (including a reasonable scale)
	+ Number line is partitioned correctly
	+ Point is plotted directly on the number line and labeled

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| *Bachelor Level* |

1. For each rational number below, create a number line and plot a point to represent the number.

1. –1.2
2. -2.35

2) What is the value of point B on the numberline below?

 -1

B

0

Point B: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explain how you know:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| *Master Level* |

1. Create a number line and, plot the following numbers:

-3 ¼, 1.3, -0.8, , 2.45

1. Alfred invested $20,000 two years ago. After the first year, his account lost $200.50. During the second year, he lost another $200.75. Alfred plotted his points on a number line to compare how much money he lost each year. Did he plot his points accurately? Why or why not? For any point he plotted incorrectly, plot and label the amount of money that he lost on the number line below.

-201

-199

-200

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**INDEPENDENT PRACTICE**

* CFS for top quality work
	+ Number line is drawn neatly and accurately (including a reasonable scale)
	+ Number line is partitioned correctly
	+ Point is plotted directly on the number line and labeled

|  |
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| *Bachelor Level* |

1. Which numbers represent the point on the number line below? Circle all that apply.

-1

-3

0

-2

2) Create a number line and plot the following points

3) Using fractions and decimals, determine two or more ways to represent the point on the number line below numerically.

 -3

-1

-2

Answers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| *Master Level* |

4) Point D represents Andrew’s elevation below sea level. What rational number represents Andrew’s elevation?

D

-6

-7

 Explain how you know: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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5) Which number line shows the location of , **|** **|**, ?

 -2

-1

0

1

 -2

-1

0

1

 -2

-1

0

1

 -2

-1

0

1. Marco said that the point on the number line is . Do you agree or disagree with him? Explain.

 -2

0

-1

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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If you disagree, draw a number line and plot the point correctly.

1. Which numbers represent the point on the number line below? Circle all that apply.

 -1

0

* 1. -0.2
	2. -0.8

* 1. **||**

1. Point M represents the opposite of –½ and point N represents the opposite of 5/2. Which number line correctly shows points M and N?

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| *PhD Level* |

1. A local park’s programs committee is raising money by holding mountain bike races on a course through the park. During each race, a computer tracks the competitors’ locations on the course using GPS tracking. The table shows how far each competitor is from a check point.



* 1. The check point is represented by 0 on the number line. Locate and label points on the number line for the positions of each listed participant. Label the points using rational numbers.



* 1. Which of the competitors is closest to the check point? Explain.

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* 1. Two competitors are the same distance from the check point. Are they in the same location? Explain.

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* 1. Who is closer to finishing the race, Nancy or Florence? Support your answer.

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 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. What rational number is represented by point B on the number line? Explain how you know.

 -1

B

0

1

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Create a number line and plot the points below.

A