

Just In Time Quick Check
Standard of Learning (SOL) 7.1e

Strand: Number and Number Sense

Standard of Learning (SOL) 7.1e

The student will identify and describe absolute value of rational numbers.

Grade Level Skills:

- Demonstrate absolute value using a number line.
- Determine the absolute value of a rational number.
- Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle to solve practical problems.

[Just in Time Quick Check](#)

[Just in Time Quick Check Teacher Notes](#)

Supporting Resources:

- VDOE Mathematics Instructional Plans (MIPS)
 - [7.1e Absolute Value](#) (Word) / [PDF Version](#)
- VDOE Algebra Readiness Formative Assessments
 - [SOL 7.1e](#) (Word) / [PDF Version](#)
- VDOE Algebra Readiness Remediation Plans
 - [Absolute Value](#) (Word) / [PDF](#)
- VDOE Word Wall Cards: Grade 7 ([Word](#)) | ([PDF](#))
 - Absolute Value
- Desmos Activity
 - [Exploring Absolute Value](#)

Supporting and Prerequisite SOL: [6.3a](#), [6.3c](#)

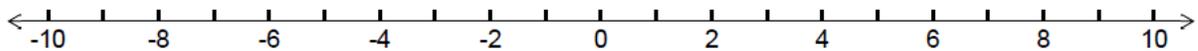
SOL 7.1e - Just in Time Quick Check

1) Determine if the following statements are true or false. Justify your reasoning for each statement.

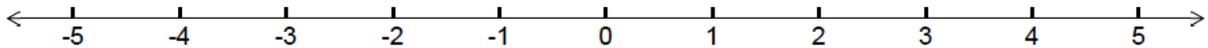
Statement	True or False	Justification
$ -4 = 4$		
$-8 = 8 $		
$-0.5 = 0.5 $		
$\left \frac{1}{2}\right = \frac{1}{2}$		

2) Plot each of the following values on the number lines provided.

a) $|-8|$

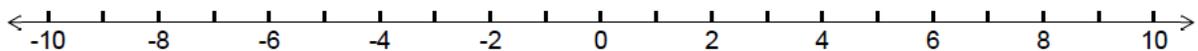


b) $\left|\frac{3}{4}\right|$

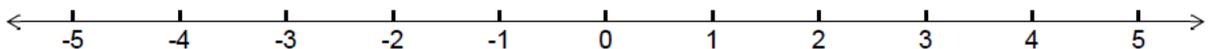


3) Plot each of the following values on the number lines provided.

a) Plot a point of each number that has an absolute value of 7.

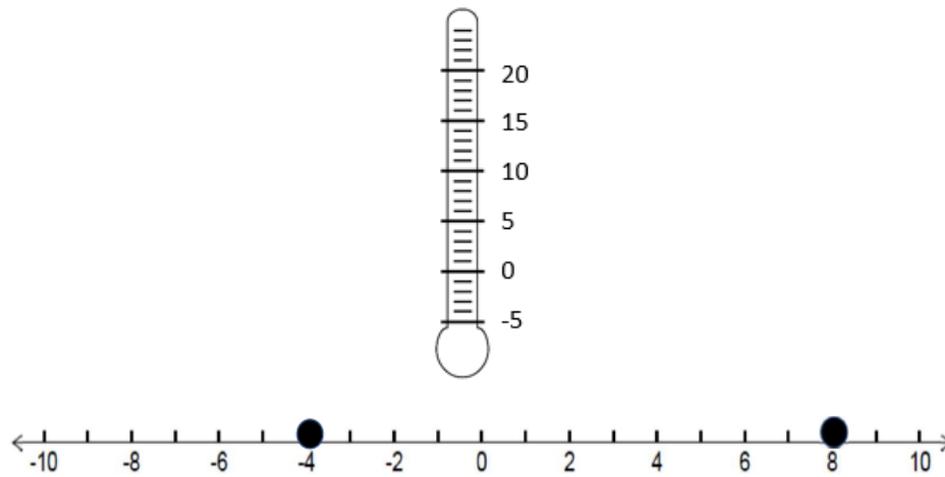


b) Plot a point of each number that has an absolute value of 2.5.



4) Complete the sentence. The absolute value of -4.3 is 4.3 because -

5) Consider the number line and thermometer.



A town had a low of -4° Fahrenheit and a high of 8° Fahrenheit.

- Write an absolute value statement that can be used to determine the distance between the high and low temperature.
- Determine the distance between the high and low temperature.

SOL 7.1e - Just in Time Quick Check Teacher Notes

Common Errors/Misconceptions and their Possible Indications

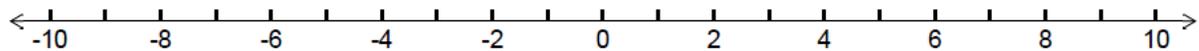
- 1) Determine if the following statements are true or false. Justify your reasoning for each statement.

Statement	True or False	Justification
$ -4 = 4$		
$-8 = 8 $		
$-0.5 = 0.5 $		
$\left \frac{1}{2}\right = \frac{1}{2}$		

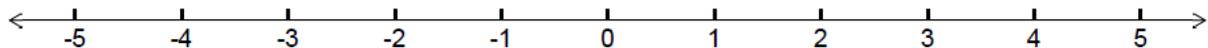
A common error students may make is thinking absolute value means it is the opposite of the value in the absolute value bars. This may indicate students need additional time to explore absolute value using a number line in order to visualize that the absolute value of a number is the distance from 0 on the number line regardless of direction; therefore, distance is positive. The Exploring Absolute Value VDOE Desmos Activity allows students to explore these concepts.

- 2) Plot each of the following values on the number lines provided.

c) $|-8|$



d) $\left|\frac{3}{4}\right|$

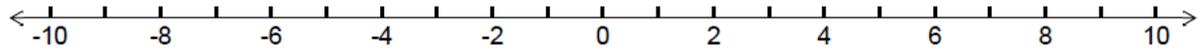


A common misconception (error) is plotting the opposite of the value inside the absolute value bars. See question 1 for implications and teacher recommendations.

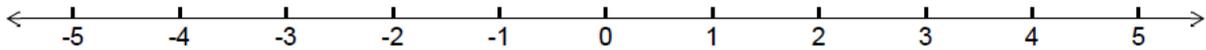
A common error students may make for c and d is plotting the rational number incorrectly. For example, students may round the absolute value to the nearest whole number and plot that value or for the fraction plot the numerator and denominator as separate values. Teachers are encouraged to have students practice plotting the absolute values of rational numbers on number lines.

3) Plot each of the following values on the number lines provided.

a) Plot a point of each number that has an absolute value of 7.



b) Plot a point of each number that has an absolute value of 2.5.

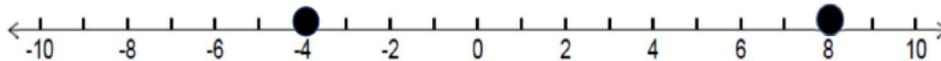
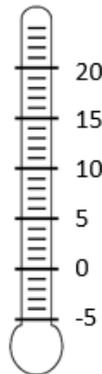


A common misconception (error) is a student only plotting one of the two desired values. It could be that the student only plots the negative value representing the opposite of the number given or that the student only plots the positive value given in the question. This indicates the student may benefit from more exploration of absolute value on a number line. Teachers may consider using the VDOE Desmos Activity to help students explore absolute value.

c) Complete the sentence. The absolute value of -4.3 is 4.3 because -

A common error is that a student may write because it is the opposite of -4.3 instead of the distance from zero. Refer to number 1 for implications.

d) Consider the number line and thermometer.



A town had a low of -4° Fahrenheit and a high of 8° Fahrenheit.

a) Write an absolute value statement that can be used to determine the distance between the high and low temperature.

b) Determine the distance between the high and low temperature.

A common error is not writing the statement as the absolute value of the difference between the values. For example, students may write $|3 - 9|$, $|-9 + 3|$, or $|3| - |-9|$ which would result in incorrect distances of 6 or -6. This may indicate students need more practice using a number line to determine the distance between two values. Teachers may consider using the 7.1e Absolute Value (MIP) that includes an interactive activity exploring absolute value and the distance between two points on a number line.