

Just In Time Quick Check
Standard of Learning (SOL) 6.3a

Strand: Number and Number Sense

Standard of Learning (SOL) 6.3a

The student will identify and represent integers.

Grade Level Skills:

- Model integers, including models derived from practical situations.
- Identify an integer represented by a point on a number line.

Just in Time Quick Check

Just in Time Quick Check Teacher Notes

Supporting Resources:

- VDOE Mathematics Instructional Plans (MIPS)
 - [6.3a - Ground Zero](#) (Word) / [PDF](#)
- VDOE Algebra Readiness Formative Assessments
 - [SOL 6.3a](#) (Word) / [PDF](#)
- VDOE Algebra Readiness Remediation Plans
 - [Compare Integers](#) (Word) / [PDF](#)

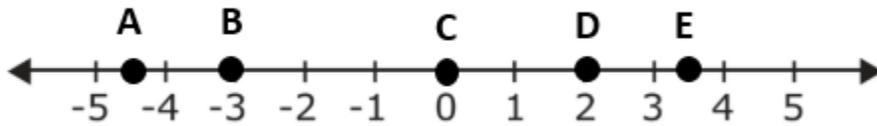
Supporting and Prerequisite SOL: [5.2a](#), [4.2b](#), [4.3a](#), [4.3d](#)

SOL 6.3a - Just in Time Quick Check

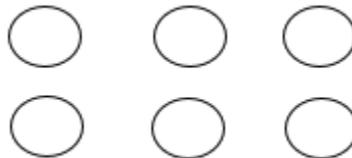
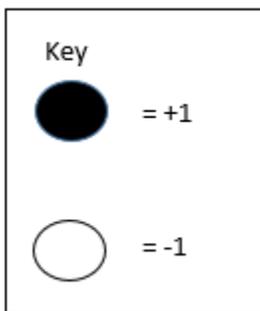
1. What integer does this situation represent? Create a model to explain your response.

The deep end of the pool is 6 feet below ground.

2. Which points on this number line represent integers?



3. Use the key below to answer the question.



What integer is represented in this picture? Explain your thinking.

4. Circle all integers in the table. Explain why these numbers are integers.

four-ninths	eighty-one	zero
-17	-2.5	$\frac{1}{2}$

SOL 6.3a - Just in Time Quick Check Teacher Notes

Common Errors/Misconceptions and their Possible Indications

1. What integer does this situation represent? Create a model to explain your response.

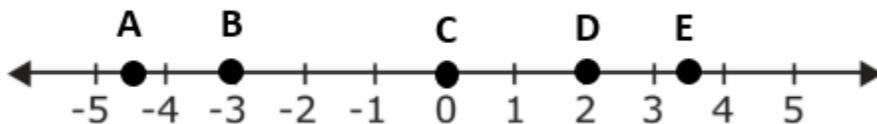
The deep end of the pool is 6 feet below ground.

A common error for some students is to create a model showing a positive integer rather than the negative integer from the situation. The student may struggle with creating a model where the outcome is a negative.

These students may benefit from connecting these situations to a vertical number line that provides a visual reference for negative numbers.

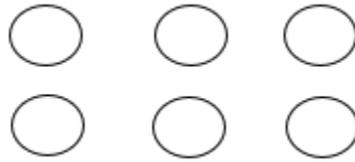
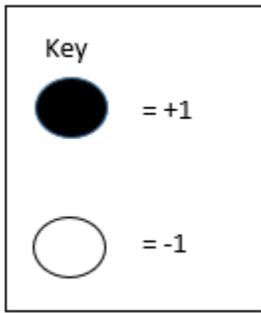
Teachers may also wish to use activities such as the Mathematics Instructional Plan, 6.3a - Ground Zero, where the student is able to make connections between positive and negative integers and practical situations. Students can create their own examples of situations. Students could also be encouraged to look through various media sources (magazines, newspapers, online articles or images) to find practical applications of integers and then identifying the integer modeled in each example.

2. Which points on this number line represent integers?



A common misconception for some students is not understanding that integers are whole numbers and their opposites. Some students may select the points that represent fraction/decimal values. These students recognize that integers differ from whole numbers, but do not recognize they represent a "whole," and do not include "parts" of numbers. Other students may not select zero as an integer, thinking it is not included as part of this set. Students with these misconceptions may benefit from a visual representation in the form of a diagram of the sets of numbers. In addition, a discussion of whole numbers and what they represent as well as a discussion of the meaning of "opposite" would provide more clarity for some students. It is important for students to realize that sets of numbers in mathematics overlap, and that numbers can belong to more than one set.

3. Use the key below to answer the question.



What integer is represented in this picture? Explain your thinking.

A common misconception is thinking that counters always represent positive integers. Some students struggle with the idea that an object (counter) can represent a negative number.

Students with this misconception may benefit from modeling practical situations using counters to represent positive and negative numbers. As students record their thinking, they should use a key that represents the counters used in the model.

Another possible strategy is to model a positive integer using two-color counters and then use the counters to model the integer that is the opposite (negative) of that integer. Students could then connect these integer models to number line models. Making connections between different representations may help students deepen their understanding of integer representations.

4. Circle all integers in the table. Explain why these numbers are integers.

four-ninths	eighty-one	zero
-17	-2.5	$\frac{1}{2}$

Some students may have difficulty identifying integers in written form. Providing opportunities for students to identify integers from multi-representations will strengthen their understanding of this set of numbers.

Some students may select the numbers that represent fraction/decimal values. These students recognize that integers differ from whole numbers, but do not recognize they represent a "whole," and do not include "parts" of numbers. Other students may not select zero as an integer, thinking it is not included as part of this set. Some students will select -2.5, focusing on the negative value, and not the whole number. Students with these misconceptions may benefit from a visual representation in the form of a diagram of the sets of numbers and/or using a number line to organize their numbers.