SAMPLES OF STANDARDS STUDENTS ARE LEARNING THIS NINE WEEKS:

7TH GRADE MATH

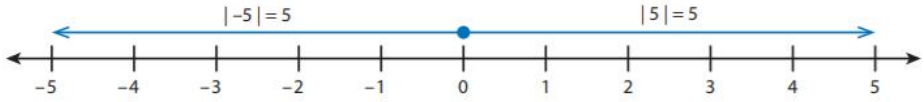
Standards: 7.NS.1a, 7.NS.1b, 7.NS.2, 7.NS.3, 7.EE.1, 7.EE.2, 7.EE.4

Standard 7.NS.1.a, 7.NS.1.b

When do you add positive and negative integers?

You can use positive and negative integers to represent quantities you see in sports, games, business, science, and in other areas of your life.

For instance, in a game, you might gain 5 points if you answer the question correctly and lose 5 points if you answer the question incorrectly. The numbers 5 and −5 are on opposite sides of the number line and have the same distance from 0 on the number line. This means that the numbers have the same **absolute value**.



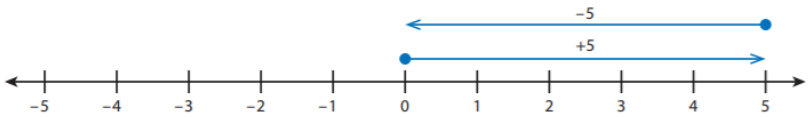
Think **What happens when you add an integer to its opposite?**

You can use a number line to picture what happens when you add an integer to its opposite.

Look at the number line above. The distance from 0 to −5 is represented by an arrow pointing to the left. The distance from 0 to 5 is represented by an arrow pointing to the right. Because |5| = |−5|, you know the distances and arrows are equal in length.

The sum of 5 and −5 is shown on the number line below. If you move 5 units in the positive direction and then move 5 units in the negative direction, you will be back at 0.

Circle the arrow that represents −5 on the number line.



Two numbers that have a sum of zero are **additive inverses**. In this case, −5 is the additive inverse of 5 because 5 + (−5) = 0. For the same reason, 5 is the additive inverse of −5.

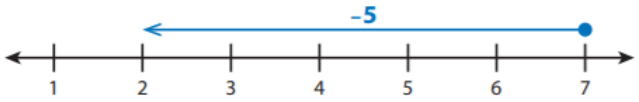
Think **How do you model integer addition on a number line?**

When adding or subtracting a negative number, you write the negative number in parentheses to separate it from the operation symbol.

Correct	Incorrect
$3 + (-5)$ $4 - (-3)$	$3 + -5$ $4 - -3$

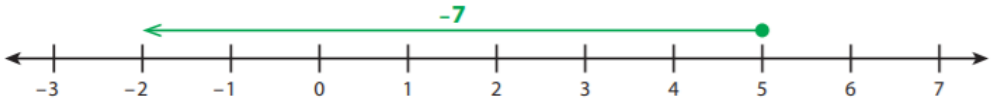
The number line below represents $-2 + (-4)$. You start at -2 and **move left 4 units**, ending at -6. The sum $-2 + (-4)$ is -6. When adding two negative numbers, you start on the left side of 0 and always move left, so the answer is always negative.

The number line below represents $7 + (-5)$. You start at 7 and **move left 5 units** to add -5. You end at 2, so $7 + (-5) = 2$.



Will the sum of -8 and $+3$ be positive or negative? Explain.

You can use this same process to add $5 + (-7)$. You start at 5 and **move left 7 units**. You end at -2, so $5 + (-7) = -2$.



Standard 7.NS.2

Determine if each quotient is correct.

Choose *True* or *False* for each equation.

a. $-4 \div 1 = -4$ ☐ True ☐ False

b. $-6 \div (-2) = -3$ ☐ True ☐ False

c. $-7 \div (-7) = 1$ ☐ True ☐ False

d. $10 \div (-5) = 2$ ☐ True ☐ False

Correct Answer:

a. True
b. False
c. True
d. False

Janet's car insurance payment decreases by $20 each year. Which expressions represent the total change in her payment, in dollars, after 5 years?

Choose all that apply.

A $20 - 20 - 20 - 20 - 20$

B 100

C $5 \times (-20)$

D $-20 \times (-5)$

E -100

Correct Answer: C and E

Standard 7.NS.3

Carmen is $5\frac{1}{4}$ years younger than Antoine. Katy is $11\frac{1}{2}$ years older than Carmen. To the nearest year, what is the difference in Antoine's age and Katy's age?

A Antoine is about 17 years older than Katy.

B Antoine is about 6 years older than Katy.

C Antoine is about 6 years younger than Katy.

D Antoine is about 17 years younger than Katy.

Correct Answer: C

Standard: 7.EE.1

Which expression is equivalent to $\frac{1}{4}m + \frac{3}{4}m - \frac{3}{8}(m + 1)$?

A $\frac{5}{8}m + \frac{3}{8}$

B $\frac{5}{8}m - \frac{3}{8}$

C $\frac{3}{8}m + \frac{5}{8}$

D $\frac{3}{8}m - \frac{5}{8}$

Correct Answer: B

Standard 7.EE.2

Stephanie wants to buy s tomato plants, and Diego wants to buy d tomato plants. Each plant costs $7. Stephanie will use a coupon that will give them $25 off the total cost of all their plants.

Which expression represents the total cost of all the plants with the discount?

A $7(s + d) - 7(s + d)(0.25)$

B $0.75(7s) + 7d$

C $7(s + d) - 25$

D $25(s + d) - 7$

Correct Answer: C

Standard 7.EE.4

A phone sells for $250. It is now on sale for $\frac{1}{5}$ off the original price. April has a coupon for an extra 10% off the sale price. To the nearest dollar, how much less than the original price will April pay for the phone?

A $25

B $49

C $68

D $69

Correct Answer: D