

Math Packet Grade 6 Bridge

Week 8: 5/18-5/22 Name:

Period:

Days	Assignment
Monday -Adding Integers	Read p. 496, view video Dr. Berger p. 497* complete p. 497-498 #7-14, 1-16
Tuesday -Adding Integers	Read p. 501, 503 view video Dr. Berger p. 503* complete p.38 sheet
Wednesday - Subtracting Integers	Read p. 508-509 view video Dr. Berger p. 509* complete p. 510, #1-14
Thursday - Subtracting Integers	p. 516 Go Math
Friday - Lesson Quiz	p. 519 Go Math

*To view the Dr. Berger (Math on the Spot videos) -
You can go to Class Link and click on myhrw to pull up the
Go Math book and enter the page number and view the
video

OR if you have a QR Reader on your phone, just scan the
bar code on the Go Math page and view the video.

Adding on a Number Line

Mon., 5/18

Just as you can add positive integers on a number line, you can add negative integers.

* read through this

The temperature was 2°F below zero. The temperature drops by 5°F . What is the temperature now?

- A** What is the initial temperature written as an integer?

-2 degrees

- B** Mark the initial temperature on the number line.

- C** A drop in temperature of 5° is like adding -5° to the temperature.

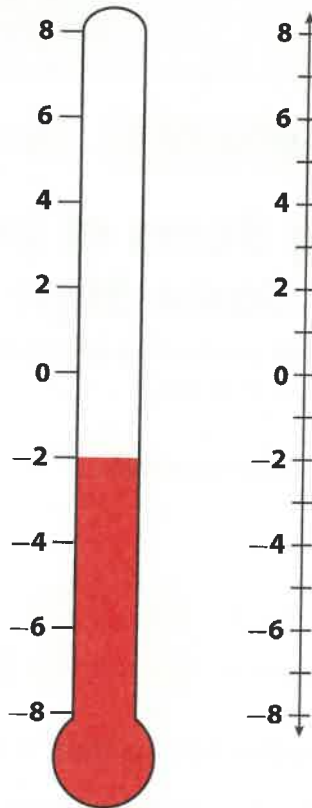
Count on the number line to find the final temperature. Mark the temperature now on the number line.

- D** What is the temperature written as an integer?

-7°

The temperature is 7°

above / below zero.



Temperature ($^{\circ}\text{F}$)

Reflect

- 2. What If?** Suppose the temperature is -1°F and drops by 3°F . Explain how to use the number line to find the new temperature.

Start at -1. Move 3 units in a negative direction to -4; the new temp. is -4°F .

- 3. Communicate Mathematical Ideas** How would using a number line to find the sum $2 + 5$ be different from using a number line to find the sum $-2 + (-5)$?

Start at -2, move 5 units in a negative direction, and get -7.

- 4. Analyze Relationships** What are two other negative integers that have the same sum as -2 and -5 ?

Sample answer: -3 and -4

Name: _____

Adding Integers with a Common Sign

To add integers with the same sign, add the absolute values of the integers and use the sign of the integers for the sum.

week 8



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EXAMPLE 1



FL 7.NS.1.1, 7.NS.1.1d

Add $-7 + (-6)$.

The signs of both integers are the same.

STEP 1 Find the absolute values.

$$|-7| = 7 \quad |-6| = 6$$

The absolute value is always positive or zero.

STEP 2 Find the sum of the absolute values: $7 + 6 = 13$

STEP 3 Use the sign of the integers to write the sum.

$$-7 + (-6) = -13 \quad \textit{The sign of each integer is negative.}$$

Math Talk



Mathematical Practices

Can you use the same procedure you use to find the sum of two negative integers to find the sum of two positive numbers? Explain.

Reflect

5. **Communicate Mathematical Ideas** Does the Commutative Property of Addition apply when you add two negative integers? Explain.

6. **Critical Thinking** Choose any two negative integers. Is the sum of the integers less than or greater than the value of either of the integers? Will this be true no matter which integers you choose? Explain.

Mon.

YOUR TURN

Find each sum.

7. $-8 + (-1) =$ _____

8. $-3 + (-7) =$ _____

9. $-48 + (-12) =$ _____

10. $-32 + (-38) =$ _____

11. $109 + 191 =$ _____

12. $-40 + (-105) =$ _____

13. $-150 + (-1500) =$ _____

14. $-200 + (-800) =$ _____



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Guided Practice

Mon. (continued)

Find each sum. (Explore Activity 1) *red = negative*

1. $-5 + (-1)$



- a. How many counters are there? _____
- b. Do the counters represent positive or negative numbers? _____
- c. $-5 + (-1) =$ _____

2. $-2 + (-7)$

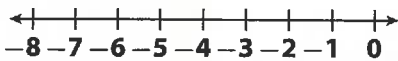


- a. How many counters are there? _____
- b. Do the counters represent positive or negative numbers? _____
- c. $-2 + (-7) =$ _____

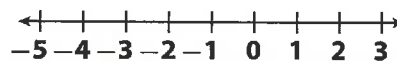
Model each addition problem on the number line to find each sum.

(Explore Activity 2)

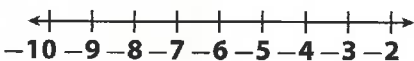
3. $-5 + (-2) =$ _____



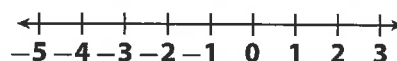
4. $-1 + (-3) =$ _____



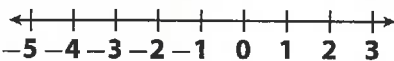
5. $-3 + (-7) =$ _____



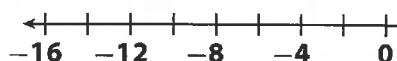
6. $-4 + (-1) =$ _____



7. $-2 + (-2) =$ _____



8. $-6 + (-8) =$ _____



Find each sum. (Example 1)

9. $-5 + (-4) =$ _____

10. $-1 + (-10) =$ _____

11. $-9 + (-1) =$ _____

12. $-90 + (-20) =$ _____

13. $-52 + (-48) =$ _____

14. $5 + 198 =$ _____

15. $-4 + (-5) + (-6) =$ _____

16. $-50 + (-175) + (-345) =$ _____



ESSENTIAL QUESTION CHECK-IN

17. How do you add integers with the same sign?

LESSON 17.2 Adding Integers with Different Signs

FL 7.NS.1.1
Apply and extend previous understandings of addition and subtraction to add... rational numbers; represent addition... on a horizontal... number line diagram. Also 7.NS.1.1b



ESSENTIAL QUESTION

How do you add integers with different signs?

EXPLORE ACTIVITY 1

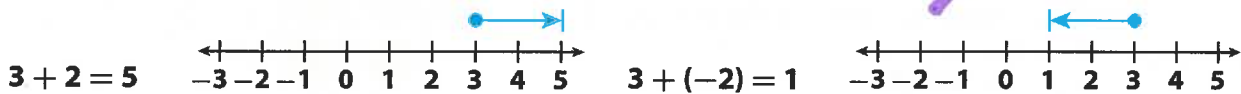
FL 7.NS.1.1, 7.NS.1.1b

Adding on a Number Line

read page

To find the sum of integers with the same sign, such as $3 + 2$, you can start at 3 and move $|2| = 2$ units in the positive direction.

To find the sum of integers with different signs, such as $3 + (-2)$, you can start at 3 and move $|-2| = 2$ units in the negative direction.



Model each sum on a number line.

A Model $4 + (-3)$.

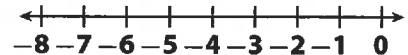
Start at 4. Move 3 units to the left, or in the negative direction.



$4 + (-3) = \underline{\hspace{2cm}}$

B Model $-7 + 5$.

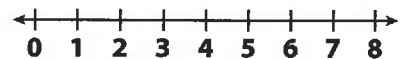
Start at -7. Move 5 units to the right, or in the direction.



$-7 + 5 = \underline{\hspace{2cm}}$

C Model $6 + (-6)$.

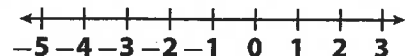
Start at +6. Move 6 units to the left, or in the negative direction.



$6 + (-6) = \underline{0}$

Reflect

- Make a Prediction** Predict the sum of $-2 + 2$. Explain your prediction and check it using the number line.



YOUR TURN

Model and find each sum using counters.

3. $5 + (-1)$ _____

4. $4 + (-6)$ _____

5. $1 + (-7)$ _____

6. $3 + (-4)$ _____



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Adding Integers

* Study table!

You have learned how to add integers with the same signs and how to add integers with different signs. The table below summarizes the rules for adding integers.

	Adding Integers	Examples
Same signs	Add the absolute values of the integers. Use the common sign for the sum.	$3 + 5 = 8$ $-2 + (-7) = -9$
Different signs	Subtract the lesser absolute value from the greater absolute value. Use the sign of the integer with the greater absolute value for the sum.	$3 + (-5) = -2$ $-10 + 1 = -9$
A number and its opposite	The sum is 0. The opposite of any number is called its additive inverse .	$4 + (-4) = 0$ $-11 + 11 = 0$



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EXAMPLE 1



FL

7.NS.1.1, 7.NS.1.1b

Find each sum.

A $-11 + 6$

$|-11| - |6| = 5$

Subtract the lesser absolute value from the greater.

$-11 + 6 = -5$

Use the sign of the number with the greater absolute value.

B $(-37) + 37$

$(-37) + 37 = 0$

The sum of a number and its opposite is 0.

Math Talk

Mathematical Practices

Give an example of two integers with different signs whose sum is a positive number. How did you choose the integers?

YOUR TURN

Find each sum.

7. $-51 + 23 =$ _____

8. $10 + (-18) =$ _____

9. $13 + (-13) =$ _____

10. $25 + (-26) =$ _____



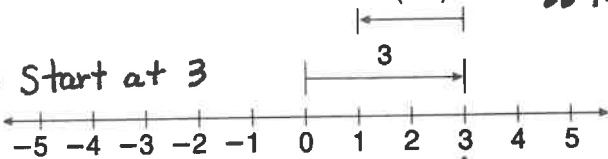
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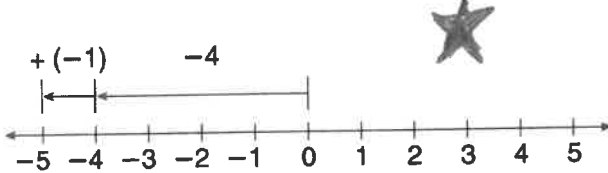
Online Assessment
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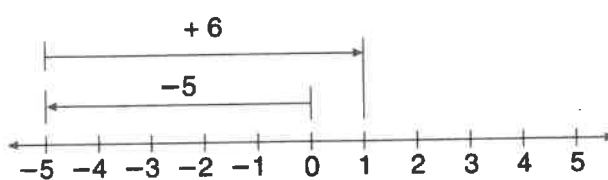
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LESSON **Practice B**
9-4 Adding Integers

Write the addition modeled on each number line.

1. $+(-2)$ •• move left 2
 Start at 3

 _____ $3 + -2$

2. $+(-1)$ -4


3. $+6$
 -5


Find each sum.

4. $5 + (-1)$ _____ 5. $-3 + 2$ _____ 6. $-8 + (-4)$ _____

7. $-2 + (-1)$ _____ 8. $9 + (-6)$ _____ 9. $-10 + 5$ _____

10. $12 + (-3)$ _____ 11. $0 + (-7)$ _____ 12. $17 + (-9)$ _____

Evaluate $n + (-1)$ for each value of n .

13. $n = 2$ _____ 14. $n = -4$ _____ 15. $n = 5$ _____

16. $n = -3$ _____ 17. $n = 1$ _____ 18. $n = 0$ _____

19. When Calvin played golf today, he scored a $+1$ on the first hole, a -2 on the second hole, a -1 on the third, and a $+4$ on the fourth. What was Calvin's total score for the first four holes?

20. The average temperature for February was 4°F below zero. By March, the average temperature had increased 11 degrees. What was the average temperature in March?

EXPLORE ACTIVITY 1 (cont'd)

Reflect

1. **Communicate Mathematical Ideas** Suppose you want to model the difference $-4 - 7$. Do you need to add zero pairs? If so, why? How many should you add? What is the difference?

Wed.

EXPLORE ACTIVITY 2



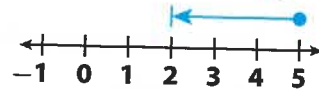
FL 7.NS.1.1, 7.NS.1.1c

read only

Subtracting on a Number Line

To model the difference $5 - 3$ on a number line, you start at 5 and move 3 units to the left. Notice that you model the sum $5 + (-3)$ in the same way. Subtracting 3 is the same as adding its opposite, -3 .

$5 - 3 = 5 + (-3)$



You can use the fact that subtracting a number is the same as adding its opposite to find a difference of two integers.

Find each difference on a number line.

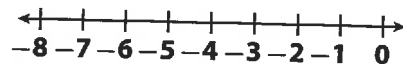
- A** Find $-1 - 5$ on a number line.

Rewrite subtraction as addition of the opposite.

$-1 - 5 = -1 + \underline{\hspace{2cm}}$

Start at $\underline{\hspace{1cm}}$ and move $\underline{\hspace{1cm}}$ units to the left.

The difference is $\underline{\hspace{2cm}}$



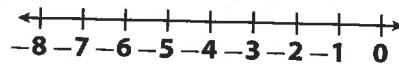
- B** Find $-7 - (-3)$.

Rewrite subtraction as addition of the opposite.

$-7 - (-3) = -7 + \underline{\hspace{2cm}}$

Start at $\underline{\hspace{1cm}}$ and move $\underline{\hspace{1cm}}$ units to the $\underline{\hspace{1cm}}$.

The difference is $\underline{\hspace{2cm}}$



EXPLORE ACTIVITY 2 (cont'd)

Reflect

2. **Communicate Mathematical Ideas** Describe how to find $5 - (-8)$ on a number line. If you found the difference using counters, would you get the same result? Explain.

Wed.

Subtracting Integers by Adding the Opposite

read only

You can use the fact that subtracting an integer is the same as adding its opposite to solve problems.

EXAMPLE 1



FL 7.NS.1.1c, 7.NS.1.1

The temperature on Monday was -5°C . By Tuesday the temperature rose to -2°C . Find the change in temperature.

- STEP 1** Write a subtraction expression.

final temperature $-$ Monday's temperature = change in temperature

$$-2^\circ\text{C} - (-5^\circ\text{C})$$

- STEP 2** Find the difference.

$$-2 - (-5) = -2 + 5$$

To subtract -5 , add its opposite, 5 .

$$-2 + 5 = 3$$

Use the rule for adding integers.

The temperature increased by 3°C .

Reflect

3. **What If?** In Example 1, the temperature rose by 3°C . Suppose it fell from -2°C to -10°C . Predict whether the change in temperature would be positive or negative. Then subtract to find the change.



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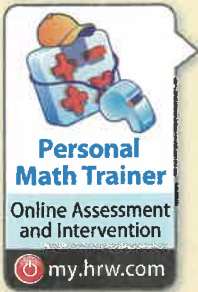
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Math Talk

Mathematical Practices

Why does it make sense that the change in temperature is a positive number?



YOUR TURN

Wed. (Br.)

Find each difference.

4. $-7 - 2 =$ _____ 5. $-1 - (-3) =$ _____
 6. $3 - 5 =$ _____ 7. $-8 - (-4) =$ _____

Guided Practice

8

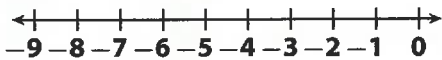
Explain how to find each difference using counters. *or other method.* (Explore Activity 1)

1. $5 - 8 =$ _____

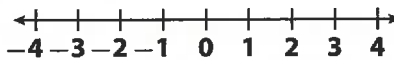
2. $-5 - (-3) =$ _____

Use a number line to find each difference. (Explore Activity 2)

3. $-4 - 5 = -4 +$ _____ $=$ _____



4. $1 - 4 = 1 +$ _____ $=$ _____



Solve. (Example 1)

5. $8 - 11 =$ _____ 6. $-3 - (-5) =$ _____
 7. $15 - 21 =$ _____ 8. $-17 - 1 =$ _____
 9. $0 - (-5) =$ _____ 10. $1 - (-18) =$ _____
 11. $15 - 1 =$ _____ 12. $-3 - (-45) =$ _____
 13. $19 - (-19) =$ _____ 14. $-87 - (-87) =$ _____

ESSENTIAL QUESTION CHECK-IN

15. How do you subtract an integer from another integer without using a number line or counters? Give an example.

Guided Practice

Name: _____

8

Write an expression. Then find the value of the expression.

(Examples 1, 2, 3)

Thurs.
(Br.)

1. Tomas works as an underwater photographer. He starts at a position that is 15 feet below sea level. He rises 9 feet, then descends 12 feet to take a photo of a coral reef. Write and evaluate an expression to find his position relative to sea level when he took the photo.

2. The temperature on a winter night was -23°F . The temperature rose by 5°F when the sun came up. When the sun set again, the temperature dropped by 7°F . Write and evaluate an expression to find the temperature after the sun set.

3. Jose earned 50 points in a video game. He lost 40 points, earned 87 points, then lost 30 more points. Write and evaluate an expression to find his final score in the video game.

Find the value of each expression. (Example 2)

4. $-6 + 15 + 15 =$ _____

5. $9 - 4 - 17 =$ _____

6. $50 - 42 + 10 =$ _____

7. $6 + 13 + 7 - 5 =$ _____

8. $65 + 43 - 11 =$ _____

9. $-35 - 14 + 45 + 31 =$ _____

Determine which expression has a greater value. (Example 3)

10. $-12 + 6 - 4$ or $-34 - 3 + 39$

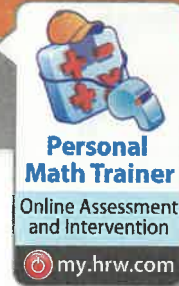
11. $21 - 3 + 8$ or $-14 + 31 - 6$



ESSENTIAL QUESTION CHECK-IN

12. Explain how you can find the value of the expression $-5 + 12 + 10 - 7$.

Ready to Go On?



Fri.

17.1 Adding Integers with the Same Sign

Add.

1. $-8 + (-6)$ _____ 2. $-4 + (-7)$ _____ 3. $-9 + (-12)$ _____

17.2 Adding Integers with Different Signs

Add.

4. $5 + (-2)$ _____ 5. $-8 + 4$ _____ 6. $15 + (-8)$ _____

17.3 Subtracting Integers

Subtract.

7. $2 - 9$ _____ 8. $-3 - (-4)$ _____ 9. $11 - (-12)$ _____

17.4 Applying Addition and Subtraction of Integers

10. A bus makes a stop at 2:30, letting off 15 people and letting on 9. The bus makes another stop ten minutes later to let off 4 more people. How many more or fewer people are on the bus after the second stop compared to the number of people on the bus before the 2:30 stop?

11. Cate and Elena were playing a card game. The stack of cards in the middle had 24 cards in it to begin with. Cate added 8 cards to the stack. Elena then took 12 cards from the stack. Finally, Cate took 9 cards from the stack. How many cards were left in the stack?



ESSENTIAL QUESTION

12. Write and solve a word problem that can be modeled by addition of two negative integers.

