

# 11.2

## Adding Integers Review

### Essential Question

How are adding integers and subtracting integers related?

# Algebraic Properties

## Commutative Property

Commutative means that the \_\_\_\_\_ does not make any difference.

### Examples

$$4 + 5 = 5 + 4$$

$$2 \cdot 3 = 3 \cdot 2$$

$$a + b = b + a$$

$$a \cdot b = b \cdot a$$

The commutative property does not work for subtraction or division.

# Algebraic Properties

## Associative Property

Associative means that the \_\_\_\_\_ does not make any difference.

### Examples

$$(1 + 2) + 3 = 1 + (2 + 3)$$

$$(2 \cdot 3) \cdot 4 = 2 \cdot (3 \cdot 4)$$

$$(a + b) + c = a + (b + c)$$

$$(a \cdot b) \cdot c = a \cdot (b \cdot c)$$

The associative property does not work for subtraction or division.

# Identifying the Property

Indicate the property used. Explained why it's used.

1)  $3 + 8 + 7 = 3 + 7 + 8$

2)  $(6 + 11) + 9 = 6 + (11 + 9)$

3)  $5 \times (7 \times 2) = (5 \times 7) \times 2$

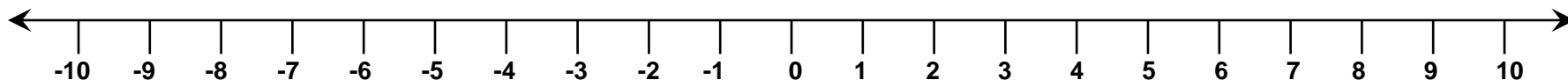
# Identifying the Property

Indicate the property used. Explained why it's used.

4)  $5 \times 9 \times 2 = 5 \times 2 \times 9$

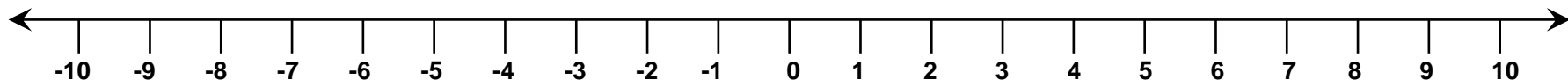
# Adding Integers on a Number Line

- Start at zero
- When the number is positive count to the right.
- When the number is negative count to the left.

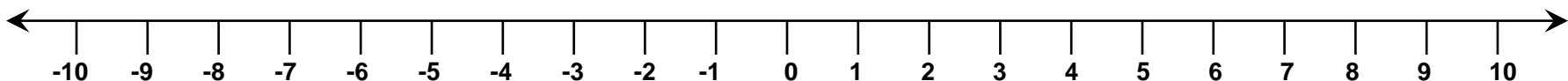


Illustrate using arrows the following problems. Afterwards, indicate the answer.

1)  $-3 + (-5) =$

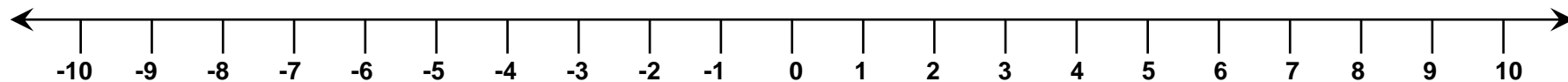


2)  $-9 + 6 =$

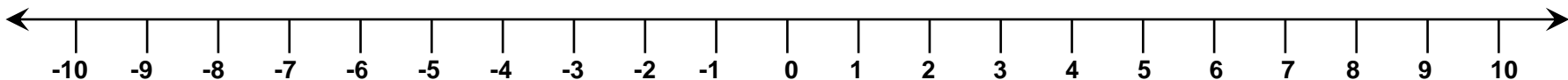


Illustrate using arrows the following problems. Afterwards, indicate the answer.

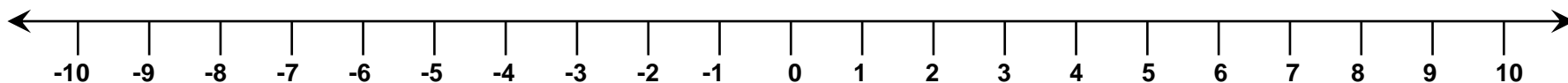
3)  $-4 + (-6) =$



4)  $4 + (-6) =$



5)  $-7 + 13 =$



# Adding Integers without a number line

$$-3 + -5 =$$

$$-1 + -3 =$$

$$-6 + -2 =$$

$$-9 + -14 =$$

$$-12 + -8 =$$

## SAME SIGN

- Ignore the signs
- Add numbers
- Put sign back



# **Adding Integers without a number line**

$$-3 + 5 =$$

$$-1 + 6 =$$

$$-5 + 9 =$$

$$5 + -7 =$$

$$8 + -6 =$$

$$14 + -18 =$$

## **DIFFERENT SIGNS**

- Ignore the signs
- Subtract
- Put sign back of number that “looks” the biggest

# Practice

Work with a partner.

Exercise	Sum: Positive, Negative, or Zero	Sum
6. $-4 + (-3)$		
7. $-3 + 2$		
8. $5 + (-3)$		
9. $7 + (-7)$		
10. $2 + 4$		
11. $-6 + (-2)$		
12. $-5 + 9$		
13. $15 + (-9)$		
14. $-10 + 10$		
15. $-6 + (-6)$		
16. $13 + (-13)$		

## SAME SIGN

- Ignore the signs
- Add numbers
- Put sign back

## DIFFERENT SIGNS

- Ignore the signs
- Subtract
- Put sign back of  
number that “looks”  
the biggest

# **Practice**

Add.

1)  $4 + (-1) + (-5)$

2)  $-7 + 2 + (-1)$

3)  $-2 + (-10) + 3$

# Real-Life Application

The list shows four bank account transactions in July. Find the change  $C$  in the account balance.

## JULY TRANSACTIONS

<b>Withdrawal</b>	<b>-\$40</b>
<b>Deposit</b>	<b>\$50</b>
<b>Deposit</b>	<b>\$75</b>
<b>Withdrawal</b>	<b>-\$50</b>