11.2 &11.3

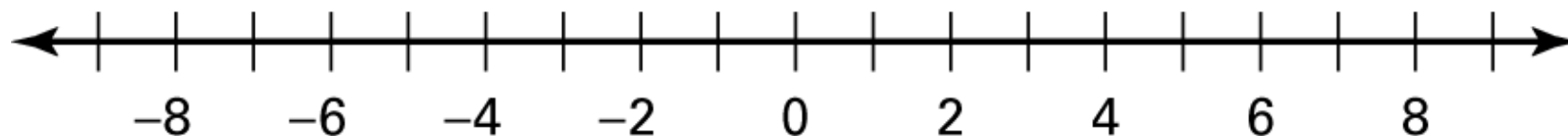# Adding & Subtracting Integers

Essential Question

How are adding integers and subtracting integers related?

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.**

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

2) $3 + (-5) =$

3) $6 + (-4) =$

4) $3 + (-7) =$

5) $-3 + 7 =$

6) $-2 + (-6) =$

Absolute Value

```
←——|——|——|——|——|——|——|——|——|——|——|——|——|——|——|——|——|→
    -8    -6    -4    -2    0     2     4     6     8
```

The absolute value is _____

_____ .

|-3|= |5|=

|3|= |-5|=

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

Seeing how subtraction is related to addition...

Subtraction	Addition
3 – 3 =	3 + -3 =
3 – 2 =	3 + -2 =
3 – 1 =	3 + -1 =
3 – 0 =	3 + 0 =
3 – -1 =	3 + 1 =
3 – -2 =	3 + 2 =
3 – -3 =	3 + 3 =

Subtraction is the same as adding the opposite

1. Change the minus sign to addition
2. Change the second number into the opposite
3. Do the problem like a regular addition problem

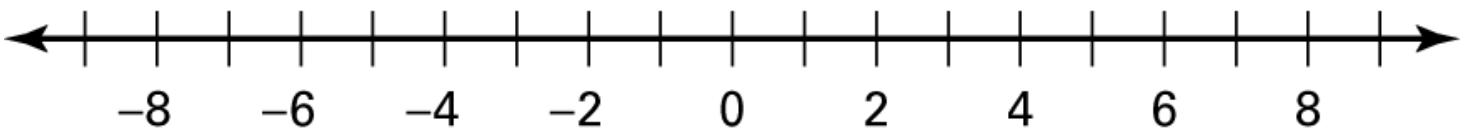$$5 - 7 \qquad 3 - (-7)$$

$$-3 - 6 \qquad -5 - (-9)$$

Practice

$$-8 \quad -6 \quad -4 \quad -2 \quad 0 \quad 2 \quad 4 \quad 6 \quad 8$$

Evaluate the following: Use a number line to check your answers.

1) $-2 + (-4) =$

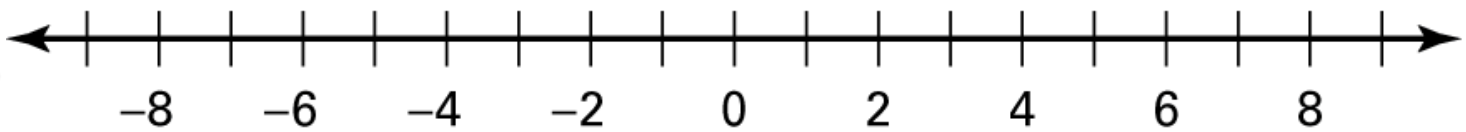2) $5 + (-10) =$

3) $-3 + 7 =$

4) $-12 + 12 =$

5) $3 - 12 =$

6) $-8 - (-13) =$

7) $5 - (-4) =$

8) $-12 - (-12) =$

Practice

Evaluate the following: Use a number line to check your answers.

9) $-7-(-12)-14=$

Real-Life Application

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

JULY TRANSACTIONS	
Withdrawal	-$40
Deposit	$50
Deposit	$75
Withdrawal	-$50

Real-Life Application

Which continent has the greater range of elevations?

	North America	Africa
Highest Elevation	6198 m	5895 m
Lowest Elevation	-86 m	-155 m