Integers & Absolute Value

Integers & Absolute Value

Objective:

7.1.02 Develop fluency in addition, subtraction, multiplication, and division or rational numbers.

Essential Question:

How do I identify, compare, and order integers?

Integers & Absolute Value

Vocabulary:

- Integer
- Opposites
- Number Line
- Absolute Value
- Rational Number

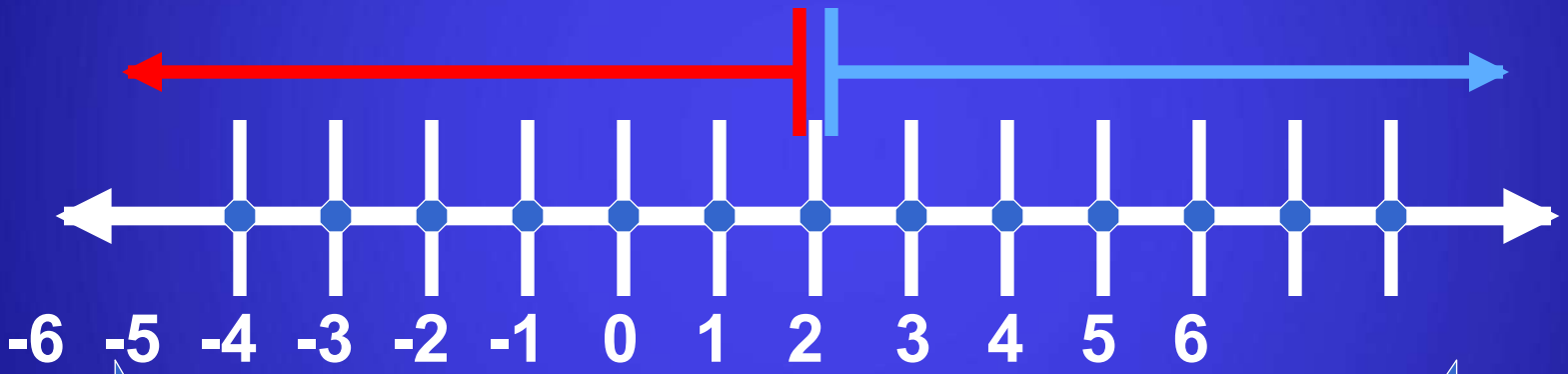
Integers & Absolute Value

WHERE DO WE SEE INTEGERS IN OUR DAILY LIVES

Integers & Absolute Value

Integers less than zero are negative integers

Integers greater than zero are positive integers

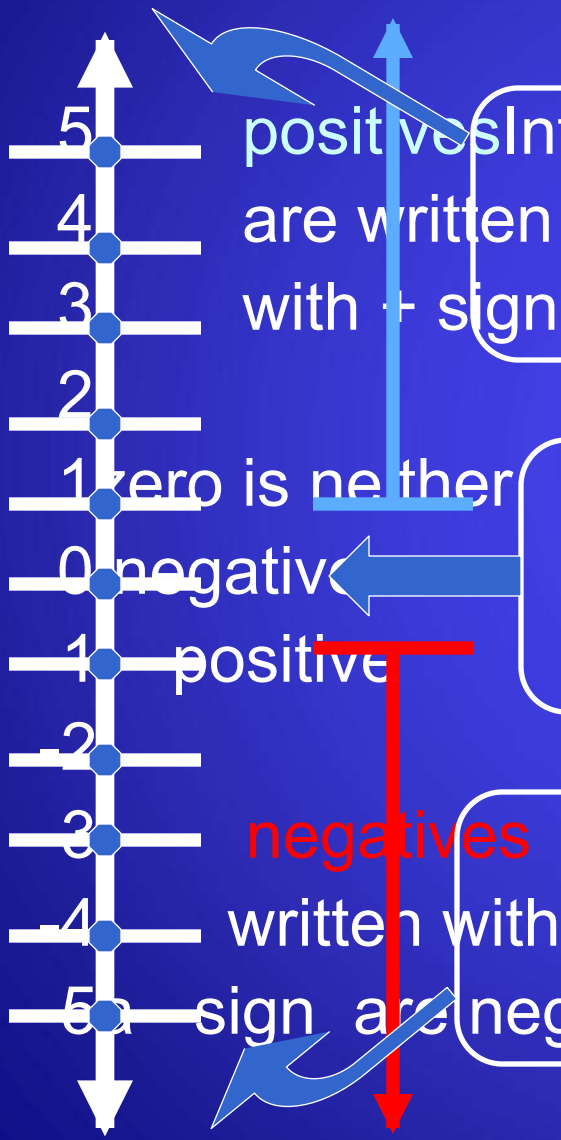


negatives are written with a (-) sign

zero is neither negative nor positive

positives CAN be written with a (+) sign

Integers & Absolute Value



positive Integers greater than zero are written with + sign

Integers greater than zero are positive integers

zero is neither negative positive

negatives written with sign

Integers less than zero are negative integers

Integers & Absolute Value

Writing Integers in Real-Life Situations

Write an integer to describe each situation

Example 1: an increase of 6 inches

Example 2: scored 10 fewer points

Example 3: a loss of 7 pounds

Example 4: earned 5 dollars interest

Example 5: a temperature of 9 degrees below zero

Integers & Absolute Value

Writing Integers in Real-Life Situations

Write an integer to describe each situation

Example 1: an increase of 6 inches → **+ 6**

Example 2: scored 10 fewer points → **- 10**

Example 3: a loss of 7 pounds → **- 7**

Example 4: earned 5 dollars interest → **+ 5**

Example 5: a temperature of 9 degrees below zero → **- 9**

Integers & Absolute Value

Graphing integers on a Number Line

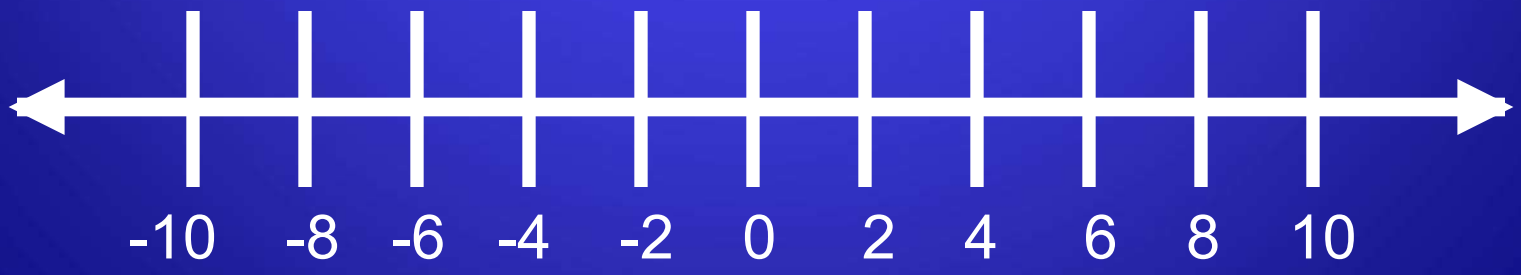
Graph each integer on the number line

Example 1: Graph - 4 on the number line

Example 2: Graph - 8 on the number line

Example 3: Graph + 10 on the number line

Example 4: Graph + 2 on the number line



Integers & Absolute Value

Graphing integers on a Number Line

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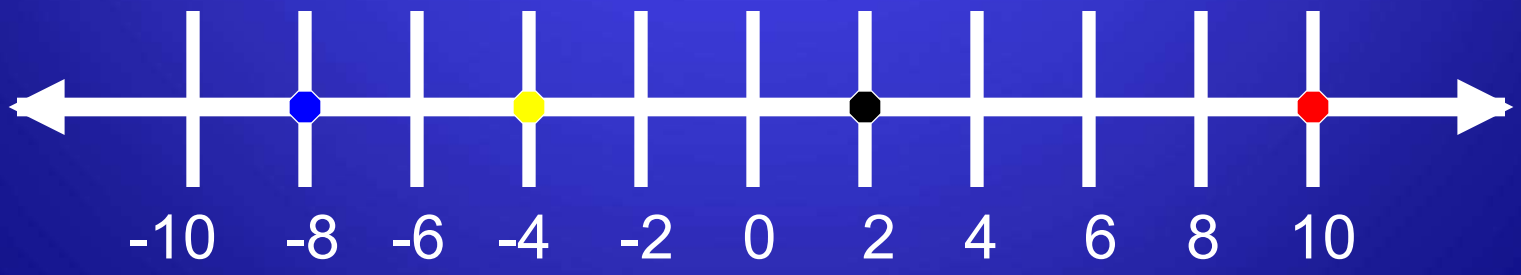


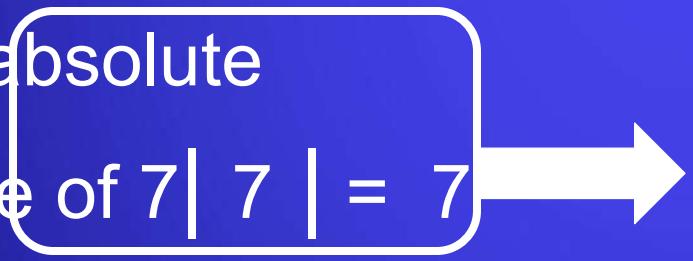
Integers & Absolute Value

What is absolute value?

The distance of some number from zero on the number line

What does absolute value look like?

the absolute value of 7 $|\ 7\ |$ $=\ 7$



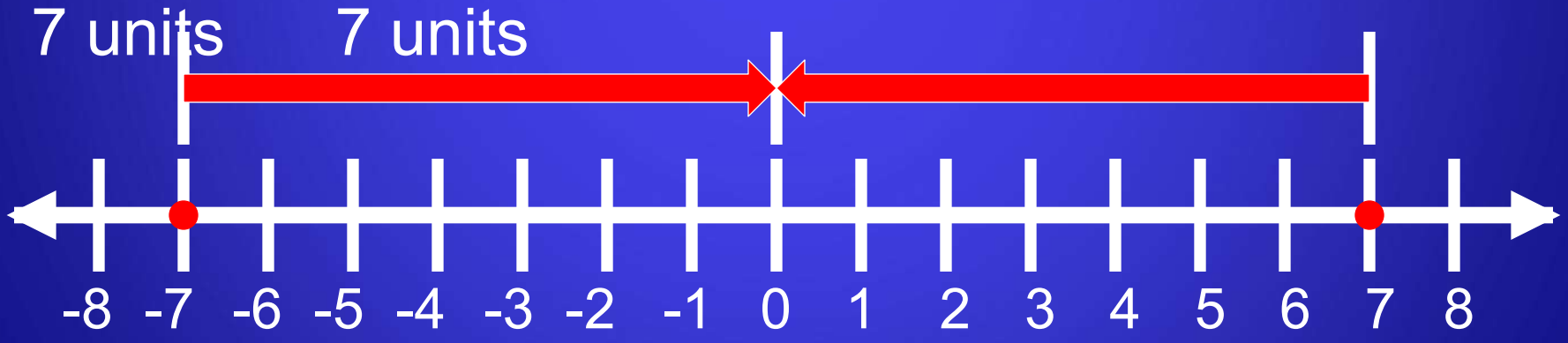
the absolute value of -7 $|\ -7\ |$ $=$

Integers & Absolute Value

What is absolute value?

The distance of some number from zero on the number line

What does absolute value look like?



Integers & Absolute Value

Absolute Value

Evaluate the expression.

Example 1: $|3|$

Example 2: $|-68|$

Example 3: $|6| + |-9|$

Example 4: $|-8| - |-9|$

Integers & Absolute Value

Absolute Value

Evaluate the expression.

Example 1: $|3| = 3$

Example 2: $|-68| = 68$

Example 3: $|6| + |-9| = 15$

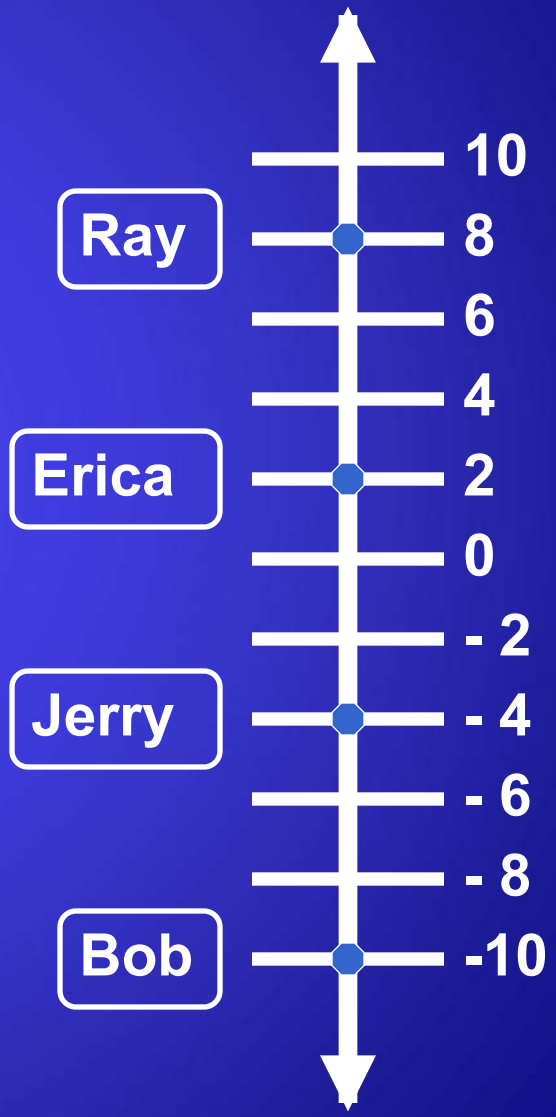
Example 4: $|-8| - |-9| = -1$

Integers & Absolute Value

Extension

The number shows the amounts of money Erica, Jerry, Bob, and Ray have in their wallets or owe one of their parents.

Who has the most money?
Who has the least money?
Who owes four dollars?

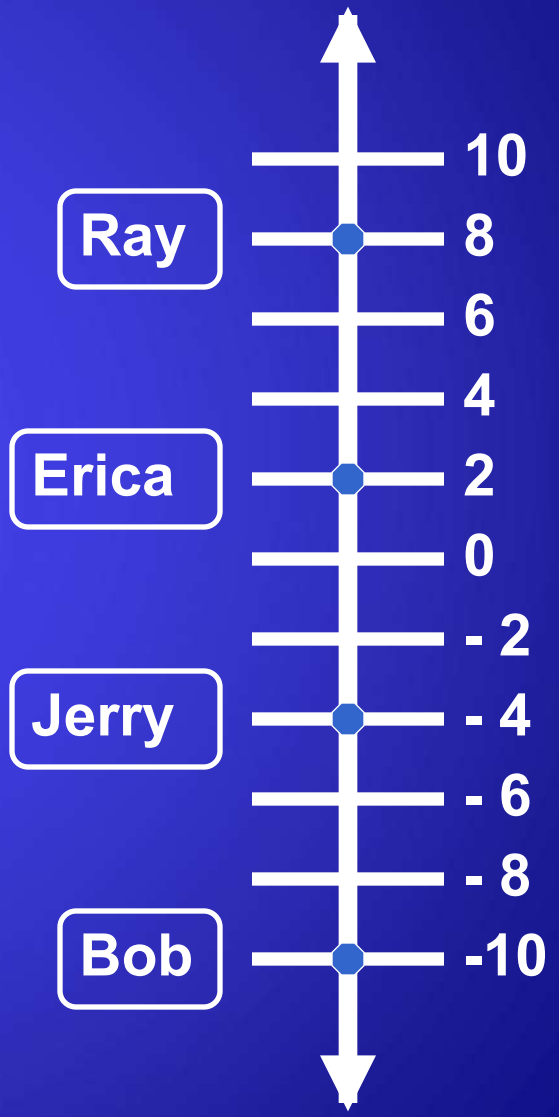


Integers & Absolute Value

Extension

The number shows the amounts of money Erica, Jerry, Bob, and Ray have in their wallets or owe one of their parents.

Who has the most money? Ray
Who has the least money? Rob
Who owes four dollars? Jerry



Integers & Absolute Value

Comparing Integers

Replace the □ with <, >, or = to make the sentence true.

Example 1: **- 9 □ 8**

Example 2: **83 □ 84**

Example 3: **5 □ - 5**

Example 4: **- 6 □ - 4**

Example 5: **- 7 □ - 7**

Integers & Absolute Value

Comparing Integers

Replace the □ with <, >, or = to make the sentence true.

Example 1: $-9 \square 8 \rightarrow -9 < 8$

Example 2: $83 \square 84 \rightarrow 83 < 84$

Example 3: $5 \square -5 \rightarrow 5 > -5$

Example 4: $-6 \square -4 \rightarrow -6 < -4$

Example 5: $-7 \square -7 \rightarrow -7 = -7$

Integers & Absolute Value

Ordering Integers

Order each set of integers from least to greatest.

Example 1: **- 162, - 10, - 81, 59**

Example 2: **9, - 8, 4, - 9**

Example 3: **2, 6, - 2, 0**

Example 4: **7, 5, - 1, - 5**

Integers & Absolute Value

Ordering Integers

Order each set of integers from least to greatest.

Example 1: **- 162, - 10, - 81, 59 →**

- 162, - 81, - 10, 59

Example 2: **9, - 8, 4, - 9 → - 9, - 8, 4, 9**

Example 3: **2, 6, - 2, 0 → - 2, 0, 2, 6**

Example 4: **7, 5, - 1, - 5 → - 5, - 1, 5, 7**

Integers & Absolute Value

Extension

Evaluate $6 + |n|$ if $b = -16$.

Integers & Absolute Value

Extension

Evaluate 6 + | n | if b = - 16.

6 + | n | = 6 + | - 16 |

= 6 + 16

= 22

Integers & Absolute Value

Homework

Core 01 and 03 – p.36 #1 – 48, all

Core 02 – p.59-60 #20 – 50, all