**7th Grade
Sept 28, 2020**

Please get out your binder to put in a new table of contents.

Today we will:
-watch video notes
-do some examples
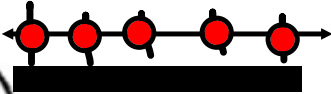-start HW
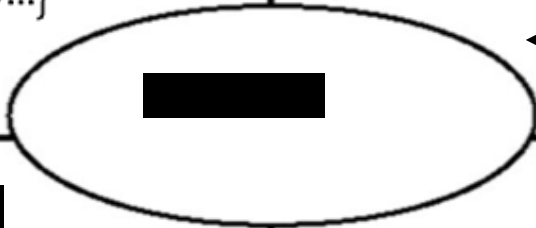
HOMEWORK:

2-1 HW Practice WS

ALEKS knowledge check and expressions assignment due next TOMORROW, Sept 29

Math

Chapter

2

TITLE:

Integers

Date	Lesson	Topic/Assignment
9/28	1	Integers and Abs Value. Video Notes

2-1

Sept _23_

Definition	Facts/Characteristics

Definition

███████████████████

$\{...-3,-2,-1,0,1,2,3...\}$

█

Facts/Characteristics

████████████████

██████████

██████████████

$\frac{1}{2}$

Examples

████

████

█

14

████

Non-examples

$\frac{1}{2}$

$-7\frac{1}{3}$

Write an integer for each situation. Then identify its **opposite** and describe what it means.

a. 32 feet underground -32 opp $+32$

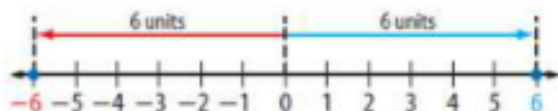**b.** 8 weeks after winning $+8$ or 8 opp -8

Answer
a. −32; +32 or 32; 32 ft above ground
b. +8 or 8; −8; 8 weeks before winning
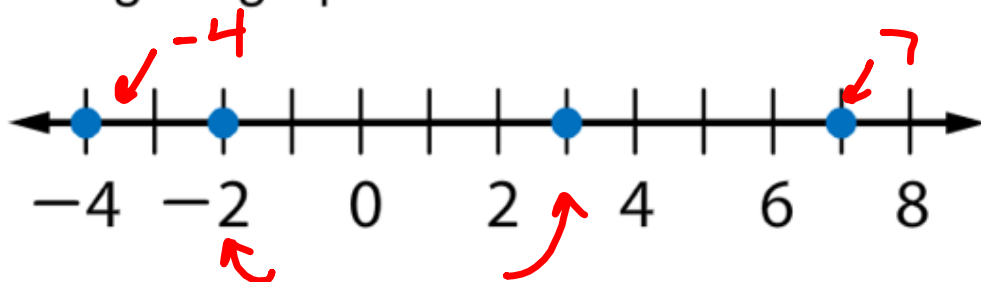
Key Concept **Absolute Value**

Words The absolute value of a number is the distance the number is from zero on the number line. The absolute value of a number is always greater than or equal to zero.

Example |6| and |−6|

6 units · · · · · · 6 units

−6 −5 −4 −3 −2 −1 0 1 2 3 4 5 6

Symbols |6| = 6   The absolute value of 6 is 6.
|−6| = 6   The absolute value of −6 is 6.

Use the integers graphed on the number line below.

−4

7

−4 −2 0 2 4 6 8

a. Write two inequalities involving 7 and −4.

−4 < −2

7 > −4
−4 < 7

b. Replace the ⚫ with <, >, or = in −2 < 3 to make a true sentence.
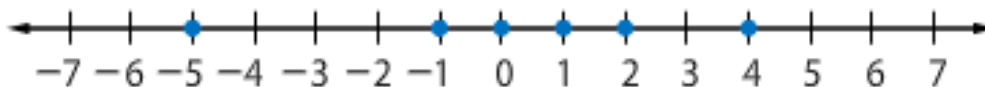
Answer

a. 7 > −4; −4 < 7

b. <

3. **Bethany and her friends played a question-and-answer video game. Their scores at the end of the game were 1, –5, 0, –1, 2, and 4. Order the scores from least to greatest.**

(1) Graph each integer on a number line.

$$-7 \quad -6 \quad -5 \quad -4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7$$

(2) Write the numbers as they appear from left to right. The scores –5, –1, 0, 1, 2, and 4 are in order from least to greatest.

Evaluate each expression.
a. $|5|$
b. $|-8| + |-1|$

$|-8| + |-1| = 8 + 1 = 9$

Evaluate $|x| + 8$ if $x = -2$.

$|-2| + 8$

$= 2 + 8$

$= 10$

Name_____

PRACTICE

Unit ____ Lesson ____ Due Date _____

Let's work through these examples together.

Guided Practice

Write an integer for each situation. Identify its opposite and describe its meaning. (Example 1)

1. a bank withdrawal of $500
−500 ; opp=500 ; deposit of $500

2. a gain of 4 pounds
4 ; opp=−4 ; loss of 4 pounds

Write two inequalities using the number pairs. Use the symbols < or >. (Example 2)

3. 2 and −5
2 > −5
−5 < 2

4. −4 and −8
−8 < −4
−4 > −8

5. −1 and 1
−1 < 1
1 > −1

Replace each ● with <, >, or = to make a true sentence. (Example 2)

6. −9 > −16

7. −7 < 7

8. −6 < 0

9. Order the state temperatures from least to greatest. (Example 3)

State	AL	AK	CA	FL	HI	ME	NJ	OH	TX
Temperature	−27	−80	−45	−2	12	−48	−34	−39	−23

−80, −48, −45, −39, −34, −27, −23, −2, 12

Evaluate each expression. (Example 4)

10. $|-12| = 12$

11. $|-14| + |3| = 17$
14 + 3 = 17

12. $|18| - |-5|$
18 − 5 = 13

Evaluate each expression if $x = 7$ and $y = -6$. (Example 5)

13. $15 - |y|$
$15 - |-6|$
$15 - 6 = 9$

14. $|y| + x$
$|-6| + 7$
$6 + 7 = 13$

15. $3|y|$
$3 \cdot |-6|$
$3 \cdot 6 = 18$

HOMEWORK

Name _____

Unit ____ Lesson _____ Due Date _____

Lesson 1 Homework Practice
Integers and Absolute Value

Write an integer for each situation. Identify its opposite and describe its meaning. Then graph the integer and its opposite on a number line.

1. an elevator ascends 4 floors

2. to be at par

3. 11°F below zero

4. a profit of $52 on a sale

Replace each ⬤ with <, >, or = to make a true sentence.

5. 0 ⬤ −5

6. 10 ⬤ −10

7. −8 ⬤ 3

8. 11 ⬤ 11

9. −18 ⬤ −18

10. −18 ⬤ 18

11. 18 ⬤ −18

12. 18 ⬤ 18

13. −120 ⬤ −95

14. 35 ⬤ −12

15. −35 ⬤ 12

16. 41 ⬤ 17

Evaluate each expression.

17. $|-7|$

18. $|14|$

19. $|-11|$

20. $|-9| - |6|$

21. $|-18| - |-8|$

22. $|-12| + |1|$

23. $|8 - 4|$

24. $|23| - |18|$

25. $|-16| + |-22|$

Evaluate each expression if $a = -3$, $b = 0$, and $c = 1$.

26. $|a| - |c|$

27. $|a| + |c|$

28. $|ab| + c$

29. $5 - |ac|$

30. $c + |-5|$

31. $c + |5|$

32. At 6:15 a.m. the temperature was −8°F. At 12:15 p.m. the temperature was −12°F. At 6:16 p.m. the temperature was −10°F. Order the temperatures from least to greatest.