LESSON 1.4

Comparing *and* Ordering Integers

Vocabulary

integer, p. 22
negative integer, p. 22
positive integer, p. 22
absolute value, p. 23
opposite, p. 23

BEFORE	*Now*	WHY?
You compared and ordered decimals.	You'll compare and order integers.	So you can compare two volcanoes, as in Ex. 17.

148 cal

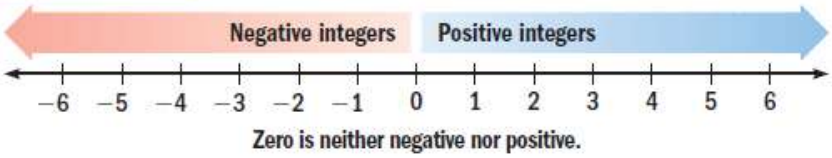
$\frac{20}{8}$ gp = 2.5 cups

$\times 148$

370

The numbers in the table are *negative integers*. The **integers** are the numbers . . . , −3, −2, −1, 0, 1, 2, 3, ... (The dots indicate that the numbers continue without end in both the positive and negative directions). **Negative integers** are integers that are less than 0.

Positive integers are integers that are greater than 0.



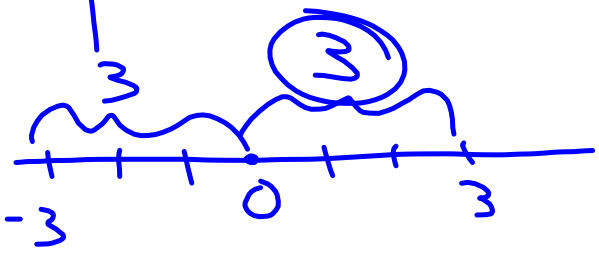
Zero is neither negative nor positive.

. . . , 1, 2, 3, ...

Opposites Two numbers are **opposites** if they have the same absolute value but different signs. For example, -10 and 10 are opposites. The expression -10 can be read as "the opposite of 10" or as "negative 10." The expression "$-a$" is read as "the opposite of a."

Absolute Value The **absolute value** of a number is its distance from 0 on a number line. The absolute value of a number a is written as $|a|$. You can use a number line to find the absolute value of a number.

$|3| = 3$



$|-3| = 3$

LESSON 1.4

Name _____ Date _____

Practice A

For use with pages 22-26

Graph the integers on a number line. Then write the integers in order from least to greatest.

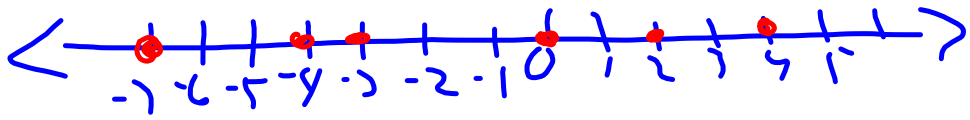
1. $-7, 0, 4, -3, -4, 2$

2. $8, -2, 7, -1, 9, -3$

3. $6, 9, -5, -7, -3, 2$

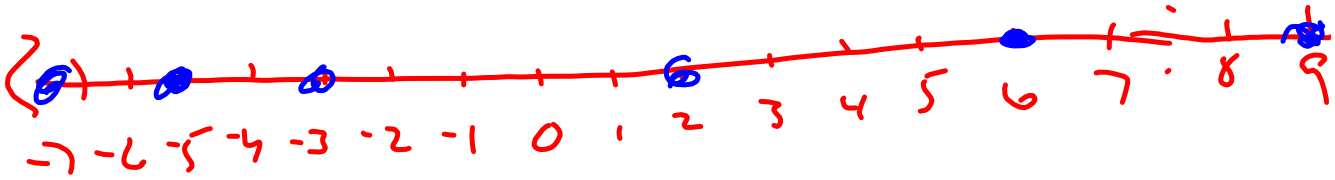
4. $-5, 0, -1, -7, -6, 1$

-7 0 4 -3, -4, 2



-7, -4, -3, 0, 2, 4

6, 9 -5, -7, -3, 2



-7, -5, -3, 2, 6, 9

Complete the statement using < or >.

5. $-7 \_?\_ 4$ **6.** $-5 \_?\_ -10$ **7.** $6 \_?\_ -3$

8. $9 \_?\_ 0$ **9.** $-15 \_?\_ -12$ **10.** $-8 \_?\_ -2$

$-7 < 4$

$6 > -3$

$-15 < -12$

State the absolute value of the number.

11. 12 12

12. −17

13. −21 21

14. 32

15. 45 45

16. −98

State the opposite of the number.

17. 56 −56

18. 37

48 **19.** −48

20. −65

21. 13

−13

22. −29

Evaluate the expression when $x = -5$.

23. $-x$ **24.** $|x| + 3$ **25.** $|x| + 7$ **26.** $|-15| - |x|$

23 $-x$

$-(-5)$

5

$|-5| + 7$

$5 + 7$

12

$|-15| - |x|$

$|-15| - |-5|$

$15 - 5$

10

27. In miniature golf, *par* is the expected number of strokes to finish a hole. Your score for the game is the sum of your number of strokes above or below par for each hole. The player with the least score wins. Order the scores given in the table from least to greatest to determine the order of finish.

Player	Score
Jerri	−5
Elinor	+3
Lance	−2
Hugh	+1
Fernando	−3

1. Jerri
5. Elinor
3. Lance
4. Hugh
2. Fernando

$-5, -3, -2, 1, 3$