LESSON

1.5

Adding Integers

BEFORE	▶ *Now*	WHY?
You added decimals.	You'll add integers.	So you can find a hockey player's plus-minus rating, as in Ex. 40.

Vocabulary

additive inverse,
p. 30

$+$ $+$ $+$ $\Rightarrow$ $+$

$-$ $+$ $-$ $\Rightarrow$ $-$

$+$ $+$ $-$ $<$ $+$ (if more $+$)
                $-$ (if more neg)

/

LESSON

1.5 **Practice A**

For use with pages 28–33

Name _____   Date _____

Tell whether the sum is positive or negative. You do not need to find the sum.

1. $-16 + 43$ **2.** $-12 + (-9)$

3. $7 + (-32)$ **4.** $-17 + 13$
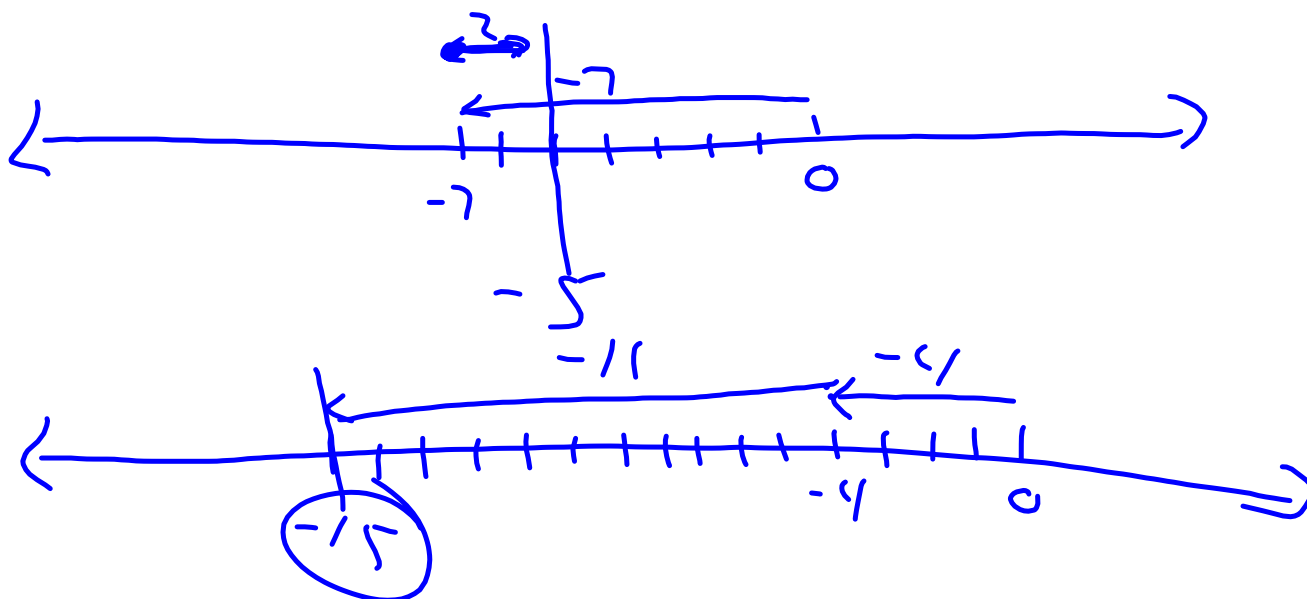
$$-16 + 43 \rightarrow pos$$

$$7 + {}^-32 \rightarrow neg$$

Use a number line to find the sum.

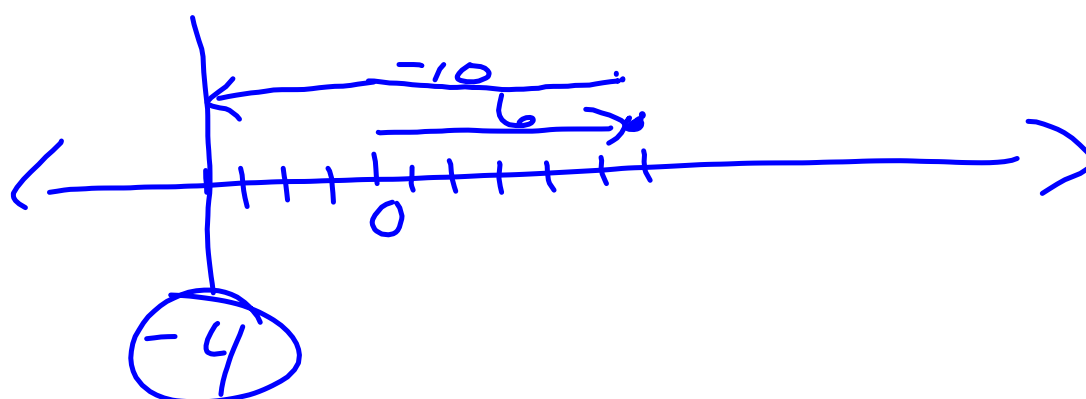**5.** $-7 + 2$ **6.** $-8 + 3$ **7.** $-4 + (-11)$

$-7 + 2$

-5

-11

$\left(-15\right)$

8. $-5 + (-13)$ **9.** $6 + (-10)$ **10.** $15 + (-9)$

-10

6

-4

11. $-12 + (-1)$ **12.** $7 + (-14)$ **13.** $8 + (-6)$

Find the sum.

14. $-21 + (-46)$ **15.** $-18 + (-53)$ **16.** $23 + (-40)$

$$-18 + {}^{-}53 = \boxed{-71}$$

17. $19 + (-17)$ **18.** $-27 + 35$ **19.** $-24 + 17$

$$19 - 17 = {}^{+}2$$
$$= 2$$

$$-24 + 17 = {}^{-}7$$

20. $-33 + 48$ **21.** $29 + (-13)$ **22.** $41 + (-37)$

$$29 + ^-13 = 16$$

Evaluate the expression when $x = -7$ and $y = 6$.

23. $x + 11$　　　　　　　　**24.** $x + (-20)$　　　　　　　　**25.** $-9 + x$

$-7 + 11$

$\boxed{4}$

$-9 + {}^-7$

-16

26. $x + y$ **27.** $y + (-12)$ **28.** $-23 + y$

$$6 + {}^-12$$
$$-6$$

29. You have a checking account. Your balance is $95. You withdraw $32, deposit $80, and withdraw $25. Write an integer to represent each value. Then find the final balance in your account.

$$95, -32, 80, -25$$

$$95 + {}^-32 + 80 + {}^-25$$
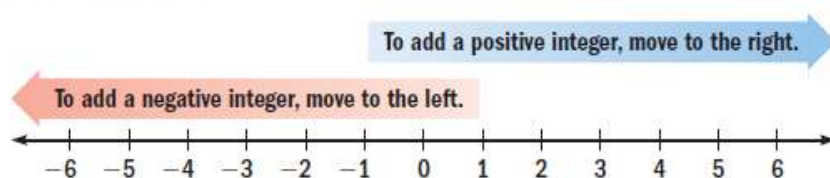
$$63 + 80 + {}^-25$$
$$143 + {}^-25$$
$$118$$

30. In consecutive plays, a football team gains 5 yards, loses 3 yards, loses 1 yard, and gains 6 yards. Write an integer to represent each value. What is the net gain for the drive?

$$5, \ -3, \ -1, \ 6$$

$$5 - 3 - 1 + 6$$

$$7$$

One way to add integers is to use a number line.

To add a positive integer, move to the right.

To add a negative integer, move to the left.

-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

Absolute Values You can use absolute values to find the sum of two or more integers.

Adding Integers

Words	**Numbers**
1. **Same Sign** Add the absolute values and use the common sign.	$8 + 12 = 20$ $-6 + (-4) = -10$
2. **Different Signs** Subtract the lesser absolute value from the greater absolute value and use the sign of the number with greater absolute value.	$5 + (-8) = -3$ $-11 + 13 = 2$
3. **Opposites** The sum of a number and its opposite is 0.	$7 + (-7) = 0$

Additive Inverse Property The opposite of a number is also called its **additive inverse**. Item 3 in the notebook can be written algebraically as $a + (-a) = 0$ and is called the *additive inverse property*.