



Name \_\_\_\_\_ Date \_\_\_\_\_

## Multiplying Integers (pages 449–452)

Remember that multiplication is repeated addition. You can multiply integers by using counters or by using a number line to show repeated addition.

<b>Multiplying Integers</b>	<p><math>4 \times (-3)</math> means to put 4 sets of 3 negative counters on a mat. Then count the counters. There are 12 negative counters, so <math>4 \times (-3) = -12</math>.</p> <p><math>-4 \times (-3)</math> means to remove 4 sets of 3 negative counters. To be able to do this, you must first place 4 sets of 3 zero pairs on the mat. Then remove the 4 sets of 3 negative counters. There are 12 positive counters remaining on the mat, so <math>-4 \times (-3) = 12</math>.</p>
-----------------------------	--

### EXAMPLES

**A** Find  $-3 \times 5$ .

$-3 \times 5$  means to remove 3 sets of 5 positive counters. Begin with 3 sets of 5 zero pairs on a mat. Then remove the 3 sets of 5 positive counters. There are 15 negative counters remaining, so  $-3 \times 5 = -15$ .

**B** Find  $2(-11)$ .

You can also use a number line. Begin at zero. Move 11 units to the left, then 11 more units to the left. You end at  $-22$ , so  $2(-11) = -22$ .

### Try These Together

1. What is the product of  $-4$  and  $-8$ ?

*HINT: Begin with 4 sets of 8 zero pairs. Then remove the 4 sets of 8 negative counters.*

2. Find the product of 6 and  $-2$ .

*HINT: Begin at zero on a number line. Move 2 units to the left 6 times.*

### PRACTICE

Find each product. Use counters or a number line if necessary.

3.  $1 \times (-1)$       4.  $5 \times 4$       5.  $-3 \times (-3)$       6.  $-6 \times 2$   
 7.  $8 \times (-4)$       8.  $-3 \times (-7)$       9.  $5 \times (-3)$       10.  $-1 \times 9$   
 11.  $-6(-4)$       12.  $-10(-3)$       13.  $7(-5)$       14.  $8(-9)$

15. Solve  $12(-3) = a$ .

16. What is the product of  $-8$  and  $-2$ ?

17. **Time** In winter, the days get shorter until December 21st. If each day is 2 minutes shorter than the day before, how many minutes will be lost in 5 days?

18. **Game Shows** On a game show, contestants lose \$100 each time they answer a question incorrectly. If a contestant answers 5 questions incorrectly, how much money will he or she lose?



19. **Standardized Test Practice** Find the product of  $-7$  and  $-4$ .

- A** 3      **B**  $-11$       **C** 28      **D**  $-21$

Answers: 1. 32 2.  $-12$  3.  $-1$  4. 20 5. 9 6.  $-12$  7.  $-32$  8. 21 9.  $-15$  10.  $-9$  11. 24 12. 30 13.  $-36$  14.  $-72$  15.  $-36$  16. 16 17. 10 minutes 18. \$500 19. C