Name _____

Practice Video Tools Games

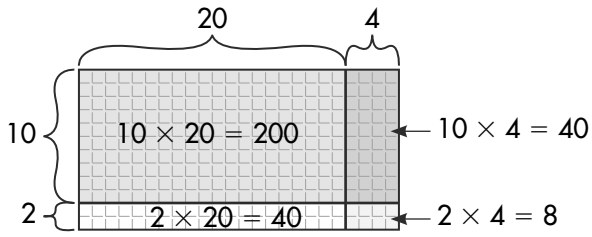
Additional Practice 4-4

Arrays and Partial Products

Another Look!

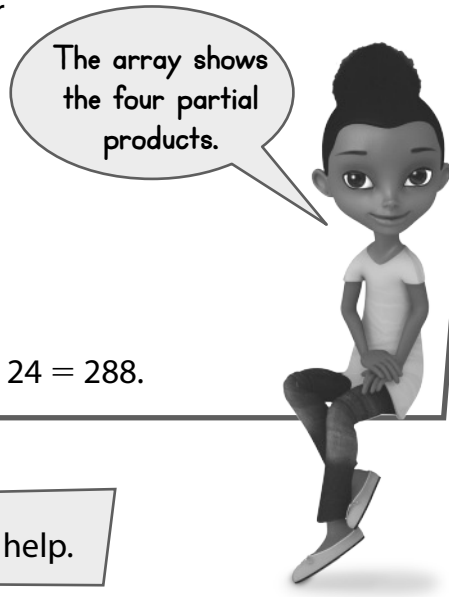
One way to find the product of 12 × 24 is to use an array.

Draw an array on a grid. Divide the array into tens and ones for each factor. Find the number of squares in each smaller rectangle. Then add the numbers of squares in the four smaller rectangles.



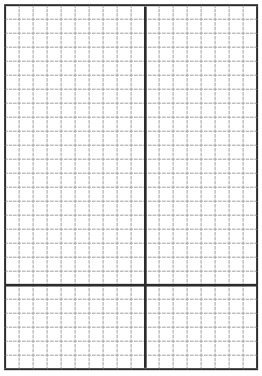
8
40
40
+ 200
288

So, 12 × 24 = 288.

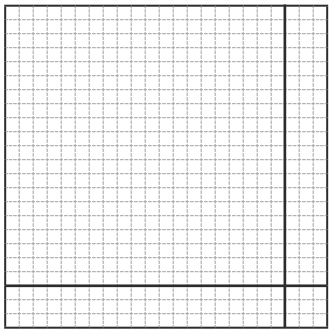


For **1–4**, find each product. Use the arrays drawn on grids to help.

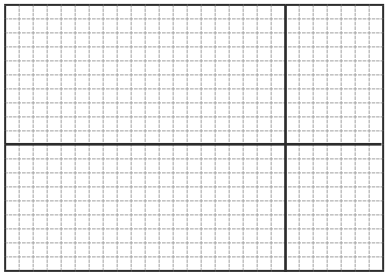
1. 26 × 18



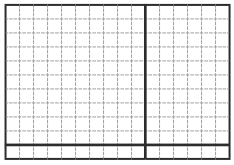
2. 23 × 23



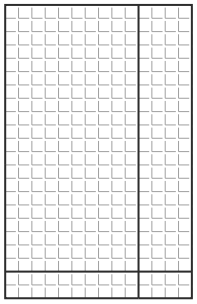
3. 19 × 27



4. 11 × 16



5. Barb exercises for 22 hours each week. How many hours does she exercise in 14 weeks? Use the array drawn on the grid to help multiply.



6. Teri used place value to find the product below. Is Teri's answer reasonable? Explain.

$$\begin{array}{r} 4{,}296 \\ \times \quad 7 \\ \hline 42 \\ 630 \\ 1{,}400 \\ 2{,}800 \\ \hline 4{,}872 \end{array}$$

7. **Higher Order Thinking** The prices at Nolan's Novelties store are shown at the right. If 27 boxes of neon keychains and 35 boxes of glow-in-the-dark pens were sold, what were the total sales in dollars?

DATA

Item	Price per Box
Neon keychains	$15
Glow-in-the-dark pens	$10

Assessment Practice

8. Insert the missing partial products in each equation. Then add to find the product. 4.NBT.2.5

300 240 42 1,200 140 20 16

$$\begin{array}{r} 18 \\ \times\ 32 \\ \hline 16 \\ \square \\ 240 \\ +\ \square \\ \hline \end{array} \qquad \begin{array}{r} 47 \\ \times\ 26 \\ \hline 42 \\ \square \\ \square \\ +\ 800 \\ \hline \end{array}$$

9. Insert the missing factor in each equation. 4.NBT.2.5

39 53 78 51 37 26 23 83

$18 \times \square = 918$

$65 \times \square = 2{,}535$

$\square \times 27 = 2{,}106$

$23 \times \square = 529$