

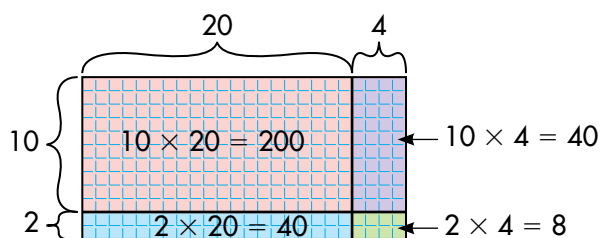
Homework & Practice 4-5

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.



$$\begin{array}{r}
 8 \\
 40 \\
 40 \\
 + 200 \\
 \hline
 288
 \end{array}$$

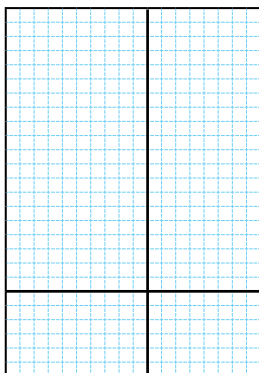
So, $12 \times 24 = 288$.

The array shows the four partial products.

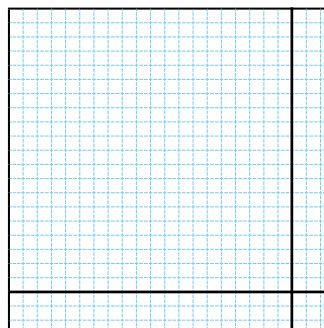


For 1–4, find each product. Use the arrays drawn on grids to help.

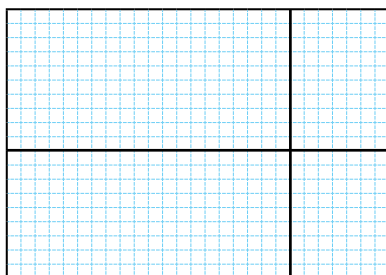
1. 26×18



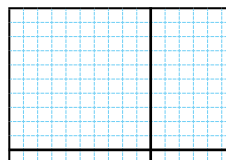
2. 23×23



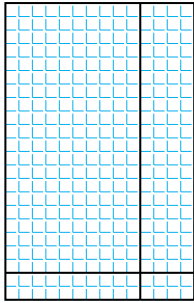
3. 19×27



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 an algorithm to find the product below. Is Teri's answer reasonable? Explain.

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

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?

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

Common Core Assessment

8. Write to explain how you can break apart 16×34 into four simpler multiplication problems.

9. Write to explain how you can use an array to break apart 18×12 to find the product and check if the product is reasonable.