Name _____

Practice Video Tools Games

Additional Practice 4-5

Area Models and Partial Products

Another Look!

Find 23 × 18.

	10	8
20	20 × 10	20 × 8
3	3 × 10	3 × 8

You can use an area model to show how you break apart the factors because there is more than one way. Then use the Distributive Property to help multiply.

$$\begin{aligned} 23 \times 18 &= (20 + 3) \times (10 + 8) \\ &= (20 + 3) \times 10 + (20 + 3) \times 8 \\ &= (20 \times 10) + (3 \times 10) + (20 \times 8) + (3 \times 8) \\ &= 200 + 30 + 160 + 24 \\ &= 414 \end{aligned}$$

For **1–3**, use the area model to find each product.

1. 14 × 19

	10	9
10		
4		

2. 12 × 22

	20	2
10		
2		

3. 21 × 51

	50	1
20		
1		

For **4–13**, draw an area model to find each product. Use properties of operations.

4. 10 × 18

5. 28 × 38

6. 51 × 12

7. 73 × 13

8. 99 × 11

9. 16 × 14

10. 17 × 38

11. 56 × 17

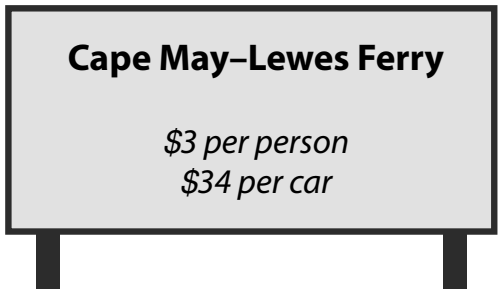
12. 11 × 13

13. 29 × 64

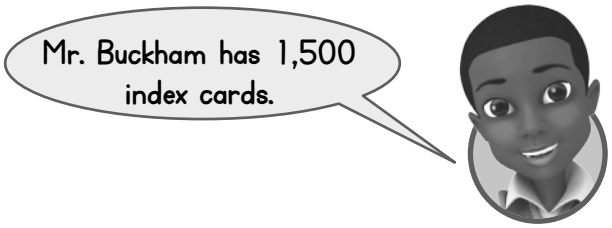
14. There are 27 students in Ms. Langley's class. Each student is assigned 15 different math problems. How many math problems are assigned to the whole class?

15. An arena hosts a concert on Friday and a rodeo on Saturday. If 12,211 people attend the concert and 9,217 attend the rodeo, how many people visit the arena on Friday and Saturday?

16. **Number Sense** On one trip, 82 people and 49 cars rode the ferry. About how much money did the ferry service collect for the one trip?



17. **Higher Order Thinking** Mr. Buckham teaches vocabulary to a class of 27 fourth-grade students. There are 63 new vocabulary words. Each student writes one vocabulary word and definition on an index card. Does Mr. Buckham have enough index cards for all the students? Explain.



Assessment Practice

18. Select all of the partial products which would be used to find 17 × 28. 4.NBT.2.5

- ☐ 200; 14; 8; 56
- ☐ 65; 80; 14; 2,000
- ☐ 56; 140; 80; 200
- ☐ 200; 140; 80; 56
- ☐ 2,000; 1,400; 80; 56

19. Select all of the ways you can use breaking apart and the Distributive Property to find the product of 45 × 18. 4.NBT.2.5

- ☐ 45 × (20 − 2)
- ☐ (40 × 10) + (5 × 8)
- ☐ (40 × 5) + (10 × 2)
- ☐ (40 × 10) + (40 × 8) + (5 × 10) + (5 × 8)
- ☐ (40 × 18) + (5 × 18)