

# Additional Practice 3-4

## Multiply 2-Digit by 2-Digit Numbers

### Another Look!

There are 24 cars in the Speedy Cup Series. Each car has 13 workers in the pit area. How many pit-area workers are at the race?



There is more than one way to multiply.

### Use Partial Products

$$\begin{array}{r} 24 \\ \times 13 \\ \hline 12 \\ 60 \\ 40 \\ + 200 \\ \hline 312 \end{array}$$

### Use the Standard Algorithm

Multiply by the ones.  
Regroup if necessary.

$$\begin{array}{r} 1 \\ 24 \\ \times 13 \\ \hline 72 \end{array}$$

Multiply by the tens.  
Regroup if necessary.

$$\begin{array}{r} 1 \\ 24 \\ \times 13 \\ \hline 72 \\ + 240 \\ \hline 312 \end{array}$$

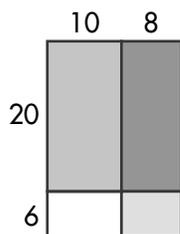
Add the partial products.

There are 312 pit-area workers at the race.

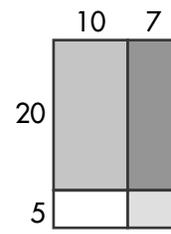
For 1–10, use the standard algorithm or partial products to find the product. Draw area models as needed.

You can use rounding or compatible numbers to estimate and check if your answer is reasonable.

1. 
$$\begin{array}{r} 18 \\ \times 26 \\ \hline 108 \\ + 360 \\ \hline 468 \end{array}$$



2. 
$$\begin{array}{r} 17 \\ \times 25 \\ \hline 85 \\ + 340 \\ \hline 425 \end{array}$$



3. 
$$\begin{array}{r} 88 \\ \times 32 \\ \hline 2,816 \end{array}$$

4. 
$$\begin{array}{r} 53 \\ \times 48 \\ \hline 2,544 \end{array}$$

5. 
$$\begin{array}{r} 18 \\ \times 77 \\ \hline 1,386 \end{array}$$

6. 
$$\begin{array}{r} 67 \\ \times 27 \\ \hline 1,809 \end{array}$$

7. 
$$\begin{array}{r} 67 \\ \times 34 \\ \hline 2,278 \end{array}$$

8. 
$$\begin{array}{r} 91 \\ \times 46 \\ \hline 4,186 \end{array}$$

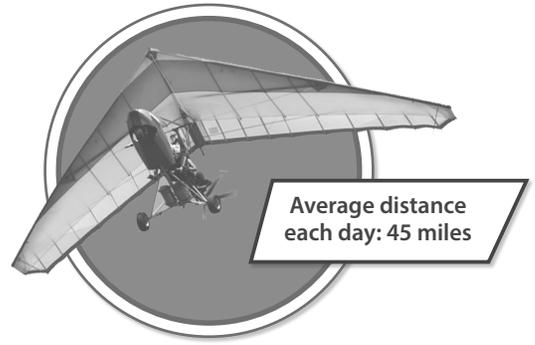
9. 
$$\begin{array}{r} 56 \\ \times 31 \\ \hline 1,736 \end{array}$$

10. 
$$\begin{array}{r} 67 \\ \times 57 \\ \hline 3,819 \end{array}$$



11. An ultralight airplane tracked monarch butterflies migrating to Mexico during the month of September. There are 30 days in September. How many miles did the ultralight travel in September?

**1,350 miles**



For 12–13, use the table at the right.

12. How much do 21 bushels of sweet corn weigh?

**735 pounds**

13. How much do 18 bushels of asparagus and 7 bushels of carrots weigh?

**782 pounds**

Vegetable	Weight of 1 Bushel
Asparagus	24 pounds
Beets	52 pounds
Carrots	50 pounds
Sweet corn	35 pounds

14. Rob purchased a rug for his apartment. The rug is 72 inches by 96 inches. Calculate the area of the rug in square inches.

**6,912 square inches**

15. **Higher Order Thinking** Corina found  $62 \times 22 = 1,042$ . Is Corina's answer reasonable? Explain.

**No; Sample answer: When both Corina's factors are rounded down, her answer is still low;  $60 \times 20 = 1,200$ .**

### Assessment Practice

16. Maria has 92 flower arrangements. Each arrangement has 48 blue flowers and 50 yellow flowers. Maria calculates there are 9,016 flowers in all the arrangements. Which of the following expressions shows how to use an estimate to check Maria's calculation?

- (A)  $90 + 50 + 50$
- (B)  $90 \times 10$
- (C)  $90 \times (50 + 50)$
- (D)  $90 \times (50 \times 50)$

17. Without calculating, which of the following is a reasonable answer for  $28 \times 32$ ?

- (A) 196
- (B) 496
- (C) 896
- (D) 12,096