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DATE _____



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There are a variety of ways to multiply 2-digit by 2-digit numbers. Use the model or strategy described in each box to solve the multiplication combination in that box.

- 1** Make an easier combination by doubling one factor and halving the other.

ex $25 \times 48 = 50 \times 24 = 100 \times 12 = 1,200$

a $25 \times 72 = \underline{\quad} \times \underline{\quad} = \underline{\quad} \times \underline{\quad} = \underline{\quad}$

- 2** Use an area model divided into four regions.

14×27

$$\begin{array}{r} 27 \\ \times 14 \\ \hline \end{array}$$

- 3** Use an area model divided into two regions.

13×34

$$\begin{array}{r} 34 \\ \times 13 \\ \hline \end{array}$$

- 4** Multiply to get four partial products and add them up.

$$\begin{array}{r} 35 \\ \times 28 \\ \hline \end{array}$$

$20 \times 30 = \underline{\quad}$
 $20 \times 5 = \underline{\quad}$
 $8 \times 30 = \underline{\quad}$
 $8 \times 5 = \underline{\quad}$

- 5** Multiply by the tens and then by the ones. Add the partial products to get the answer.

$$\begin{array}{r} 25 \\ \times 23 \\ \hline \end{array}$$

$20 \times 25 = \underline{\quad}$
 $3 \times 25 = \underline{\quad}$

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Making an estimate before solving a problem can help you decide if your answer is reasonable. Make an estimate, solve the problem, and then use your estimate to help decide if your answer makes sense.

6 The school got new dictionaries for the third, fourth, and fifth graders this year. They got 32 boxes, and there were 16 dictionaries in each box. How many dictionaries did they get altogether?

a Use rounding or another strategy to decide which estimate below is best. Circle the best estimate.

fewer than 350
dictionaries

about 600 dictionaries

more than 350 but fewer
than 450 dictionaries

b Solve the problem. Show all your work.

c Is your answer reasonable? How can you tell?

7 Solve these multiplication problems.

$$\begin{array}{r} 2,000 \\ \times 14 \\ \hline \end{array}$$

$$\begin{array}{r} 300 \\ \times 70 \\ \hline \end{array}$$

$$\begin{array}{r} 300 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 4,000 \\ \times 4,000 \\ \hline \end{array}$$

$$\begin{array}{r} 20,000 \\ \times 21 \\ \hline \end{array}$$