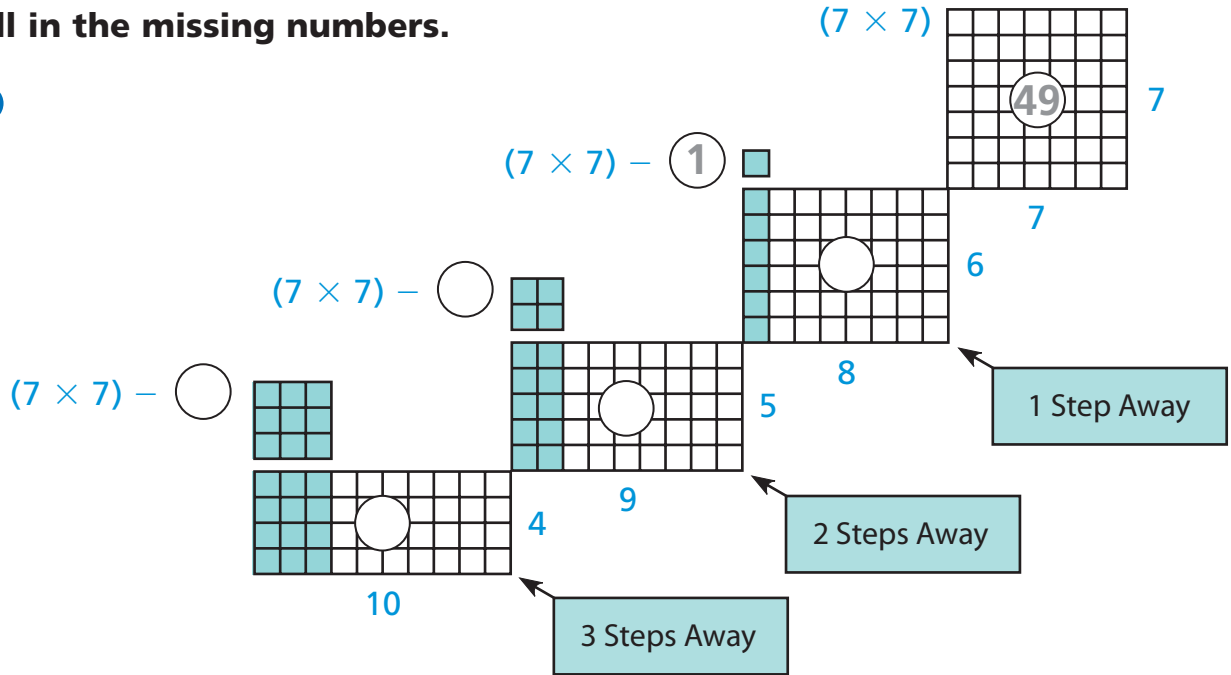


Investigating Why the Pattern Works

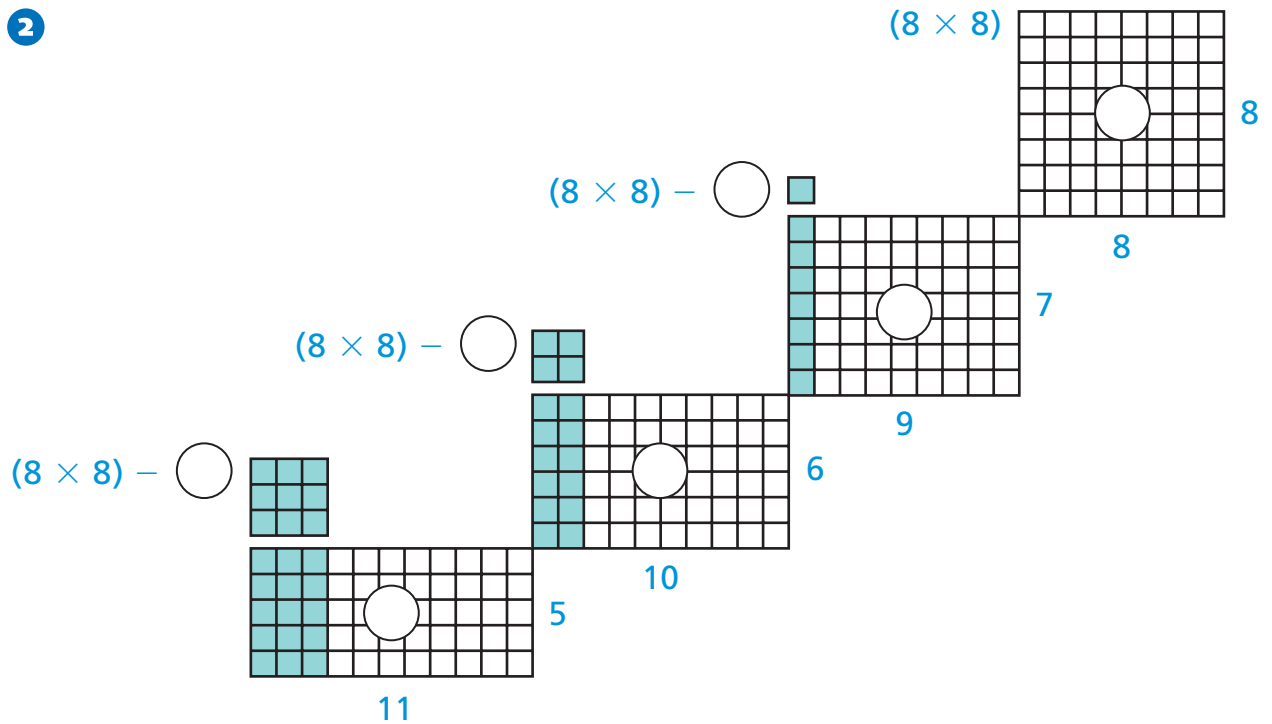
NCTM Standards 1, 2, 7, 8, 9, 10

Fill in the missing numbers.

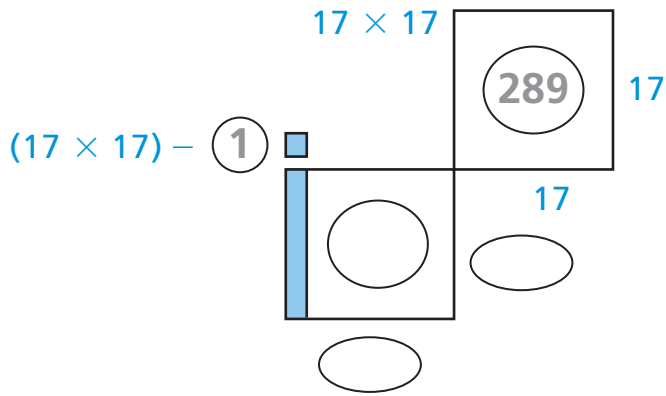
1



2



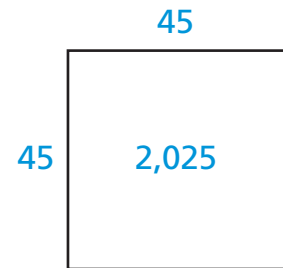
3



Solve each problem.



4 You can use $45 \times 45 = 2,025$ to figure out 41×49 . Explain how this can be done and find the product.



5 James wants to use 1-foot carpet squares to cover a porch floor. The porch is 9 feet by 15 feet. Use $12 \times 12 = 144$ to help you figure out how many carpet squares James will need.

6 Challenge Complete the number sentences.

$$\begin{array}{r}
 12 \times 12 = \boxed{} \\
 13 \times 11 = \boxed{} = 144 - 1 \\
 14 \times 10 = \boxed{} = 144 - \underline{} \\
 15 \times 9 = \boxed{} = 144 - \underline{} \\
 16 \times 8 = \boxed{} = \underline{} - \underline{}
 \end{array}$$