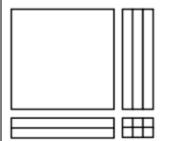
Resource Page

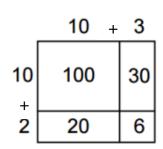
Multiplication using Base-Ten Blocks

Traditional Algorithm 1

Traditional Algorithm 2

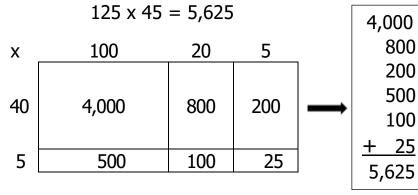
$$100 + 20 + 30 + 6 = 156$$





$$\begin{array}{rcl}
12 \\
\times & \underline{13} \\
6 & = 2 \times 3 \\
30 & = 10 \times 3 \\
20 & = 10 \times 2 \\
+ \underline{100} & = 10 \times 10
\end{array}$$

Area Model



Multiplication with the Distributive Property

$$5 \times 14 = 70$$

 $5 \times 14 = (5 \times 10) + (5 \times 4) \longrightarrow 5 \times 10 = 50$
 $5 \times 4 = 20$
 70

Partial Product:

$$14 \times 36 = 504$$

There are 225 dozen cookies in the bakery. How many cookies are there?

Student 1

 225×12

I broke 12 up into 10 and 2.

$$225 \times 10 = 2,250$$

 $225 \times 2 = 450$
 $2,250 + 450 = 2,700$

Student 2

 225×12

I broke 225 up into 200 and 25.

$$200 \times 12 = 2,400$$

I broke 25 up into 5×5 , so I had $5 \times 5 \times 12$ or $5 \times 12 \times 5$.

$$5 \times 12 = 60$$
$$60 \times 5 = 300$$

Then I added 2,400 and 300.

$$2,400 + 300 = 2,700$$

Student 3

I doubled 225 and cut 12 in half to get 450×6 . Then I doubled 450 again and cut 6 in half to 900×3 .

$$900 \times 3 = 2,700$$

Draw an array model for 225 x 12

200 x 10, 200 x 2, 20 x 10, 20 x 2, 5 x 10, 5 x 2

