

Name Jack

Date _____

1. Represent the following expressions with disks, regrouping as necessary, writing a matching expression, and recording the partial products vertically as shown below.

a. 1×213

hundreds	tens	ones
••	•	•••

$$\begin{array}{r}
 213 \\
 \times 1 \\
 \hline
 3 \rightarrow 1 \times 3 \text{ ones} \\
 10 \rightarrow 1 \times 1 \text{ ten} \\
 + 200 \rightarrow 1 \times 2 \text{ hundreds} \\
 \hline
 213
 \end{array}$$

1×2 hundreds + 1×1 ten + 1×3 ones
 2 hundreds + 1 ten + 3 ones = 213

b. 2×213

hundreds	tens	ones
••	•	•••
••	•	•••

$$\begin{array}{r}
 213 \\
 \times 2 \\
 \hline
 6 \rightarrow 2 \times 3 \text{ ones} \\
 20 \rightarrow 2 \times 1 \text{ ten} \\
 + 400 \rightarrow 2 \times 2 \text{ hundreds} \\
 \hline
 426
 \end{array}$$

2×2 hundreds + 2×1 ten + 2×3 ones
 4 hundreds + 2 tens + 6 ones = 426

c. 3×214

hundreds	tens	ones
••	•	••••
••	•	••••
••	•	••••

$$\begin{array}{r}
 214 \\
 \times 3 \\
 \hline
 12 \rightarrow 3 \times 4 \text{ ones} \\
 30 \rightarrow 3 \times 1 \text{ ten} \\
 + 600 \rightarrow 3 \times 2 \text{ hundreds} \\
 \hline
 642
 \end{array}$$

3×2 hundreds + 3×1 ten + 3×4 ones
 6 hundreds + 4 tens + 2 ones = 642

d. $3 \times 1,254$

thousands	hundreds	tens	ones
●	●●	●●●●	●●●●
●	●	●●●●	●●●●
●	●●	●●●●	●●●●

$3 \times 1 \text{ thousand} + 3 \times 2 \text{ hundreds} + 3 \times 5 \text{ tens} + 3 \times 4 \text{ ones}$
 $3 \text{ thousands} + 7 \text{ hundreds} + 6 \text{ tens} + 2 \text{ ones} = 3,762$

$$\begin{array}{r} 1,254 \\ \times \quad 3 \\ \hline 12 \\ 150 \\ 600 \\ + 3000 \\ \hline 3,762 \end{array}$$

2. Represent the following expressions with disks, using either method shown during the class, renaming as necessary. To the right, record the partial products vertically.

a. 3×212

hundreds	tens	ones
		●●●●
	●●	●
●●●●		

$$\begin{array}{r} 212 \\ \times \quad 3 \\ \hline 6 \\ 30 \\ + 600 \\ \hline 636 \end{array}$$

b. $2 \times 4,036$

thousands	hundreds	tens	ones
		●●●●	●●
		●	
●●●●			

$$\begin{array}{r} 4,036 \\ \times \quad 2 \\ \hline 12 \\ 60 \\ 000 \\ + 8000 \\ \hline 8,072 \end{array}$$

c. $3 \times 2,546$

thousands	hundreds	tens	ones
	●	●●	●●●●
	●●	●	●●
●●●●			

$$\begin{array}{r} 2,546 \\ \times \quad 3 \\ \hline 18 \\ 120 \\ 1500 \\ + 6000 \\ \hline 7,638 \end{array}$$

d. $3 \times 1,407$

thousands	hundreds	tens	ones
	●●	●●	●
●●●●			

$$\begin{array}{r} 1,407 \\ \times \quad 3 \\ \hline 21 \\ 00 \\ 1200 \\ + 3000 \\ \hline 4,221 \end{array}$$

3. Every day at the bagel factory, Cyndi makes 5 different kinds of bagels. If she makes 144 of each kind, what is the total number of bagels that she makes?

hundreds	tens	ones
●●	●●	
●●●●		

$$\begin{array}{r} 144 \\ \times \quad 5 \\ \hline 20 \\ 200 \\ + 500 \\ \hline 720 \end{array}$$

Cyndi makes a total of 720 bagels every day.

