

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. 1×43

tens	ones
●●●●	●●●

$1 \times 4 \text{ tens} + 1 \times 3 \text{ ones}$

$$\begin{array}{r} 43 \\ \times 1 \\ \hline 43 \\ + 40 \\ \hline 43 \end{array} \begin{array}{l} \rightarrow 1 \times 3 \text{ ones} \\ \rightarrow 1 \times 4 \text{ tens} \end{array}$$

b. 2×43

tens	ones
●●●●	●●●
●●●●	●●●

$2 \times 4 \text{ tens} + 2 \times 3 \text{ ones}$

$8 \text{ tens} + 6 \text{ ones} = 86$

$$\begin{array}{r} 43 \\ \times 2 \\ \hline 86 \\ + 80 \\ \hline 86 \end{array} \begin{array}{l} \rightarrow 2 \times 3 \text{ ones} \\ \rightarrow 2 \times 4 \text{ tens} \end{array}$$

c. 3×43

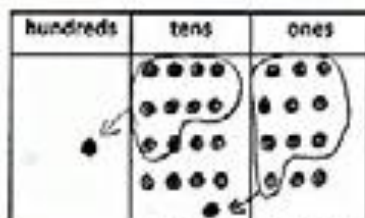
hundreds	tens	ones
●	●●●●	●●●
	●●●●	●●●
	●●●●	●●●

$3 \times 4 \text{ tens} + 3 \times 3 \text{ ones}$

$1 \text{ hundred} + 2 \text{ tens} + 9 \text{ ones} = 129$

$$\begin{array}{r} 43 \\ \times 3 \\ \hline 129 \\ + 120 \\ \hline 129 \end{array} \begin{array}{l} \rightarrow 3 \times 3 \text{ ones} \\ \rightarrow 3 \times 4 \text{ tens} \end{array}$$

d. 4×43



4×4 tens + 4×3 ones

1 hundred + 7 tens + 2 ones = 172

$$\begin{array}{r} 43 \\ \times 4 \\ \hline 12 \rightarrow 4 \times 3 \text{ ones} \\ + 160 \rightarrow 4 \times 4 \text{ tens} \\ \hline 172 \end{array}$$

2. Represent the following expressions with disks, regrouping as necessary. To the right, record the partial products vertically.

a. 2×36



2×3 tens + 2×6 ones

7 tens + 2 ones = 72

$$\begin{array}{r} 36 \\ \times 2 \\ \hline 12 \rightarrow 2 \times 6 \text{ ones} \\ + 60 \rightarrow 2 \times 3 \text{ tens} \\ \hline 72 \end{array}$$

b. 3×61



3×6 tens + 3×1 one

1 hundred + 8 tens + 3 ones = 183

$$\begin{array}{r} 61 \\ \times 3 \\ \hline 3 \rightarrow 3 \times 1 \text{ one} \\ + 180 \rightarrow 3 \times 6 \text{ tens} \\ \hline 183 \end{array}$$

c. 4×84



4×4 ones

3 hundreds + 3 tens + 6 ones = 336

$$\begin{array}{r} 84 \\ \times 4 \\ \hline 16 \rightarrow 4 \times 4 \text{ ones} \\ + 320 \rightarrow 4 \times 8 \text{ tens} \\ \hline 336 \end{array}$$

