4. Break Apart to Multiply

A. Visual Learning

How to break apart to multiply?

Find the product: 3×25.

You can break:
$25 = 20 + 5$

Step 1	Step 2	Step 3
Break apart	Find partial products	Add partial products
$3 \times 25 = 3 \times (20 + 5)$	$3 \times 20 = 60$ $3 \times 5 = 15$	$60 + 15 = 75$

You can rewrite three steps as on the right.

$$
\begin{array}{r}
2\textbf{5} \quad (25 = 20 + 5)\\
\times \quad 3\\
\hline
15\\
+ \quad 60\\
\hline
75
\end{array}
$$

B. Vocabulary

break apart: _____   partial product: _____

C. Independent Practice

In 1 – 6, find each product.

1. $13 \; (13 = 10 + 3)$

$$
\begin{array}{r}
\times \quad 6\\
\hline
18\\
+ \quad 60\\
\hline
\square\square
\end{array}
$$

2. $34 \; (24 = \_ + \_)$

$$
\begin{array}{r}
\times \quad 5\\
\hline
20\\
+ \quad \square\square\square\\
\hline
\square\square\square
\end{array}
$$

3. $67 \; (67 = \_ + \_)$

$$
\begin{array}{r}
\times \quad 2\\
\hline
\square\square\\
+ \quad \square\square\square\\
\hline
\square\square\square
\end{array}
$$

4.
$$\begin{array}{r} 36 \\ \times\ \ 2 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 18 \\ \times\ \ 7 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 55 \\ \times\ \ 3 \\ \hline \end{array}$$

7. Mr.Cruz weighs 8 cartons. Each carton weighs 17kg.

How many kilograms are there in all?

A. 25kg   **B.** 136kg   **C.** 856kg   **D.** 8,056kg

8. When Tony multiplies 6×27, Tony writes the partial products below.

$$6 \times 7 = 42$$
$$6 \times 2 = 12$$

Is he correct? Explain.

_____

_____

_____

9*. The product of a number and 25 is greater than 50 but less than 100.

What's the number? Explain.

_____

_____

_____

$$50 < \_\_ \times 25 < 100$$