

Long multiplication strategies and estimation

WHAT THIS LESSON TEACHES

For two-digit multipliers, multiply by the **units** and the **tens** separately, then add. **Estimate first** to catch slips.

→ $34 \times 26 = (34 \times 6) + (34 \times 20) = 204 + 680 = 884$.

→ Check: $34 \times 26 \approx 35 \times 25 \approx 875$.

MODEL THIS ON THE BOARD

MULTIPLY 23×14 WITH THE AREA MODEL

	$\times 20$	$\times 3$
10	200	30
4	80	12

Total: $200 + 30 +$

- 1 Split each number: $23 = 20 + 3$, $14 = 10 + 4$.
- 2 Four partial products: 200, 80, 30, 12.
- 3 Add them: $200 + 80 + 30 + 12 = 322$. (Estimate $20 \times 14 = 280$ — close.)

ANSWER KEY

Warm-up: a) 60 b) 252 c) 196 d) 340

Q1: 7479

Q3: 23989

Q2: 3475

Q4: 29330

EXTENSION SHEET · STRETCH ANSWERS

S1: 30474

S3: 1757

S2: 2241