



# A Partial-Quotients Algorithm

Let's make sense of a partial-quotients algorithm.

Warm-up

## Notice and Wonder: Incomplete Solution

What do you notice? What do you wonder?

$$\begin{array}{r} 20 \\ 16 \overline{)448} \\ -320 \\ \hline 128 \\ (5 \times 16) \end{array}$$

## Activity 1

### Elena’s Work

1. Find the value of  $448 \div 16$ . Show your thinking. Organize it so it can be followed by others.

(Pause for teacher directions.)

2. Describe Elena’s strategy for finding the value of  $448 \div 16$ .

$$\begin{array}{r} 28 \\ 16 \overline{)448} \\ -320 \quad (20 \times 16) \\ \hline 128 \\ -80 \quad (5 \times 16) \\ \hline 48 \\ -48 \quad (3 \times 16) \\ \hline 0 \end{array}$$

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## Activity 2

### Complete the Solution

Use Elena's strategy to complete solving these expressions.

1.

$$\begin{array}{r} 20 \\ 20 \\ \hline 12 ) 492 \\ - 240 \\ \hline 252 \\ - 240 \\ \hline \end{array} \quad (20 \times 12)$$

2.

$$\begin{array}{r} 40 \\ \hline 15 ) 630 \\ - 60 \\ \hline 30 \\ - 30 \\ \hline 0 \end{array} \quad (40 \times 15)$$

3.

$$14 ) 368$$