

Accessible Algorithms for Division

Introduce these accessible algorithms when students learn multi-digit division. Support students' use of the algorithms whenever they are working on multi-digit division with or without remainders.

Expanded Notation Method

Use with *Houghton Mifflin Math*, Ch 9, Lessons 2–4, 6; Ch11, Lessons 4–6.

This method helps students see the role of place value in division.

Add the partial quotients. →

$$\begin{array}{r}
 6 \\
 40 \\
 500 \\
 \hline
 7 \overline{) 3,822} \\
 \underline{-3,500} \\
 322 \\
 \underline{- 280} \\
 42 \\
 \underline{- 42} \\
 0
 \end{array}
 \left. \begin{array}{l} 6 \\ 40 \\ 500 \end{array} \right\} 546$$

Rectangle Sections Method

Use with *Houghton Mifflin Math*, Ch 5, Lessons 2, 5.

This method of long division can help students find the unknown length of a rectangle when given the rectangle's total area and the length of one side.

First Divide in the greatest place possible.

$$\begin{array}{r}
 500 \\
 7 \overline{) 3,822} \\
 \underline{- 3,500} \\
 322
 \end{array}$$

Multiply. Subtract to find the leftover amount.

Next Build a new section with each leftover amount.

$$\begin{array}{r}
 500 + 40 + 6 = 546 \\
 7 \overline{) 3,822} \quad \begin{array}{r} 322 \\ \underline{- 280} \\ 42 \end{array} \quad \begin{array}{r} 42 \\ \underline{- 42} \\ 0 \end{array} \\
 322 \quad 42 \quad 0
 \end{array}$$