

# Long Division with Multi-Digit Divisors

Grade 6 math · Test Answer Key · Standards: 6.NS.B.2

Each solution shows the expected steps and a scoring guide. Give partial credit when the method is correct but one subtraction or multiplication slip changes the final number.

**Standards:** 6.NS.B.2 · **Level:** Grade 6

## Question 1 Estimating (2 points)

- a.  $4,800 \div 60 = \text{about } 80.$
- b.  $8,000 \div 40 = \text{about } 200.$

*Scoring: 1 point for each reasonable estimate with compatible numbers.*

## Question 2 Two-Digit Divisor (2 points)

$124 \div 26 = 4$  (104), remainder 20. Bring down 8:  $208 \div 26 = 8.$

Check:  $26 \times 48 = 1,248.$  **48.**

*Scoring: 1 point for the method; 1 point for the answer.*

## Question 3 Remainders (2 points)

$37 \times 135 = 4,995$  and  $5,000 - 4,995 = 5.$

**135 R 5.**

*Scoring: 1 point for the quotient; 1 point for the remainder.*

## Question 4 Zero in the Quotient (2 points)

$194 \div 48 = 4$  (192), remainder 2. Bring down 8: 28 is less than 48, so write 0. Bring down 8:  $288 \div 48 = 6.$

Check:  $48 \times 406 = 19,488.$  **406.**

*Scoring: 1 point for the method; 1 point for the answer.*

### Question 5 Find the Error (2 points)

The remainder 52 equals the divisor, so 52 fits one more time. The last quotient digit should be 2, because  $52 \times 2 = 104$ .

**The correct quotient is 42.**

$$\begin{array}{r} 52 \overline{) 2184} \\ \underline{208} \phantom{0} \\ 104 \\ \underline{104} \\ 0 \end{array}$$

$$52 \times 42 = 2,184.$$

*Scoring: 1 point for the explanation; 1 point for the correct quotient.*

### Question 6 Ferry Trips (3 points)

- a.  $14 \times 14 = 196$  and  $205 - 196 = 9$ , so **14 R 9**.
- b. The 9 cars need another trip: **15 trips**.
- c. **9 cars**.

*Scoring: 1 point for each part.*

### Question 7 Fence Sections (3 points)

$2,016 \div 36$ :  $201 \div 36 = 5$  (180), remainder 21. Bring down 6:  $216 \div 36 = 6$ .

Check:  $36 \times 56 = 2,016$ . **56 feet**.

*Scoring: 1 point for setting up the division; 1 point for the method; 1 point for 56 feet.*

### Question 8 Muffin Cartons (3 points)

Boxes:  $3,420 \div 12 = 285$ . Cartons:  $285 \div 24 = 11$  R 21, so the last 21 boxes need another carton.

**12 cartons.**

*Scoring: 1 point for 285 boxes; 1 point for 11 R 21; 1 point for rounding up to 12.*

**Question 9 Checking (1 point)**

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$25 \times 48 + 3 = 1,200 + 3 = 1,203$ , so it is **correct**.

*Scoring: 1 point for a correct check.*