

Grade 6 · Multi-Digit Division · Worksheet

Answer Key

Common Core 6.NS.B.2 · mathovore.fr

This answer key gives a full worked solution for each of the 10 long division problems, including each divide, multiply, subtract, and bring down step. Use the check lines to confirm every quotient by multiplying back to the dividend.

Grade 6 Common Core: 6.NS.B.2

Problem 1: Divide by one digit

6 goes into 7 once: $1 \times 6 = 6$, $7 - 6 = 1$. Bring down 5 to get 15. 6 goes into 15 twice: $2 \times 6 = 12$, $15 - 12 = 3$. Bring down 6 to get 36. $6 \times 6 = 36$, remainder 0.

Check: $6 \times 126 = 756$.

126

Problem 2: Four-digit dividend

8 goes into 21 twice: 16, $21 - 16 = 5$. Bring down 8 to get 58. 8 goes into 58 seven times: 56, $58 - 56 = 2$. Bring down 4 to get 24. $8 \times 3 = 24$, remainder 0.

Check: $8 \times 273 = 2,184$.

273

Problem 3: Two-digit divisor

24 does not go into 9, so use 93. 24 goes into 93 three times: $3 \times 24 = 72$, $93 - 72 = 21$. Bring down 6 to get 216. $9 \times 24 = 216$, remainder 0.

Check: $24 \times 39 = 936$.

39

$$\begin{array}{r}
 \overline{) 936} \\
 \underline{72} \\
 216 \\
 \underline{216} \\
 0
 \end{array}$$

$936 \div 24 = 39$

Problem 4: Larger dividend

Use 43. 17 goes into 43 twice: 34, $43 - 34 = 9$. Bring down 5 to get 95. $5 \times 17 = 85$, $95 - 85 = 10$. Bring down 2 to get 102. $6 \times 17 = 102$, remainder 0.

Check: $17 \times 256 = 4,352$.

256

Problem 5: Repeated subtraction steps

Use 84. 33 goes into 84 twice: 66, $84 - 66 = 18$. Bring down 1 to get 181. $5 \times 33 = 165$, $181 - 165 = 16$. Bring down 5 to get 165. $5 \times 33 = 165$, remainder 0.

Check: $33 \times 255 = 8,415$.

255

Problem 6: Quotient with a remainder

Use 73. 45 goes into 73 once: 45, $73 - 45 = 28$. Bring down 5 to get 285. $6 \times 45 = 270$, $285 - 270 = 15$. Bring down 9 to get 159. $3 \times 45 = 135$, $159 - 135 = 24$.

Check: $45 \times 163 + 24 = 7,335 + 24 = 7,359$.

163 R 24

$$\begin{array}{r}
 \textcolor{green}{163} \\
 45 \overline{) 7359} \\
 \underline{- 45} \\
 285 \\
 \underline{- 270} \\
 159 \\
 \underline{- 135} \\
 24
 \end{array}$$

$7,359 \div 45 = 163 \text{ R } 24$

Problem 7: Estimate then divide

Estimate: $6,123 \approx 6,000$ and $29 \approx 30$, so $6,000 \div 30 = 200$.

Exact: use 61. 29 goes into 61 twice: 58, $61 - 58 = 3$. Bring down 2 to get 32. $1 \times 29 = 29$, $32 - 29 = 3$. Bring down 3 to get 33. $1 \times 29 = 29$, $33 - 29 = 4$.

Check: $29 \times 211 + 4 = 6,119 + 4 = 6,123$. The answer is close to the estimate of 200.

211 R 4

$$\begin{array}{r}
 \textcolor{green}{211} \\
 29 \overline{) 6123} \\
 \underline{- 58} \\
 32 \\
 \underline{- 29} \\
 33 \\
 \underline{- 29} \\
 4
 \end{array}$$

$6,123 \div 29 = 211 \text{ R } 4$

Problem 8: Bake sale boxes

Divide $1,248 \div 24$. Use 124: $5 \times 24 = 120$, $124 - 120 = 4$. Bring down 8 to get 48. $2 \times 24 = 48$, remainder 0.

Check: $24 \times 52 = 1,248$.

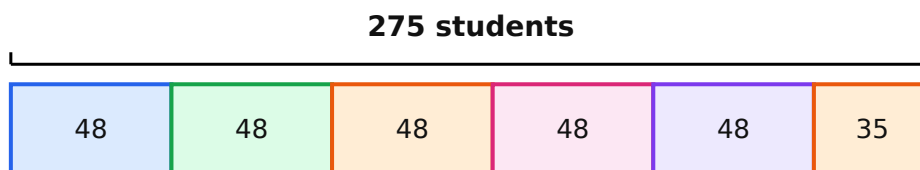
Sofia fills 52 boxes.

Problem 9: Field trip buses

Divide $275 \div 48$. 48 goes into 275 five times: $5 \times 48 = 240$, $275 - 240 = 35$. The quotient is 5 R 35.

Five buses seat only 240 students, so 35 students would be left without a seat. One more bus is needed.

The school needs 6 buses.



5 full buses and 35 students left: 6 buses.

Problem 10: Egg cartons

Divide $3,650 \div 12$. Use 36: $3 \times 12 = 36$, remainder 0. Bring down 5: 12 does not go into 5, so write 0. Bring down 0 to get 50. $4 \times 12 = 48$, $50 - 48 = 2$. The quotient is 304 R 2.

Check: $12 \times 304 + 2 = 3,648 + 2 = 3,650$.

Money: $304 \times \$3 = \$912$.

304 full cartons, 2 eggs left over, and \$912 earned.