

# Grade 4 · Division with Remainders · Test Answer Key

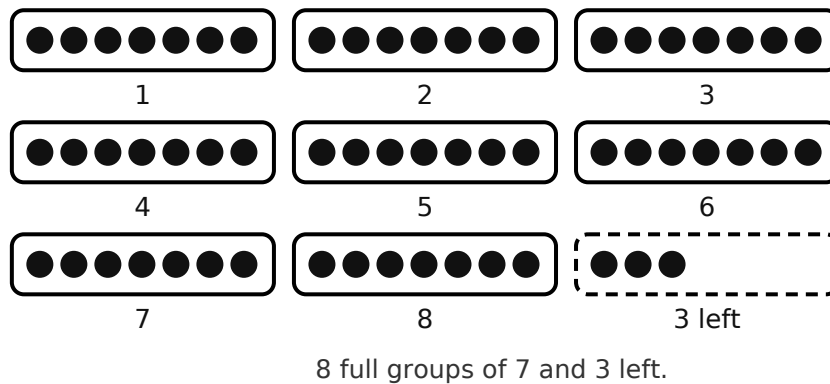
Common Core 4.NBT.B.6, 4.OA.A.3 · mathovore.fr

This answer key gives the worked solution and the scoring guide for each question, out of 20 points. Award points for correct reasoning as well as correct answers, and check every remainder against the divisor. A total of 16 points or more shows strong understanding.

## Grade 4 Common Core: 4.NBT.B.6 · 4.OA.A.3

### Question 1: Quotient and remainder (2 points)

(a)  $59 \div 7 = 8 \text{ R } 3$ . (b)  $83 \div 9 = 9 \text{ R } 2$ .



Scoring: 1 point for each correct quotient and remainder. The remainder must be included.

### Question 2: Dividing by one digit (2 points)

(a)  $672 \div 3 = 224$ . (b)  $845 \div 6 = 140 \text{ R } 5$ .

$$\begin{array}{r}
 140 \\
 6 \overline{) 845} \\
 \underline{6} \phantom{0} \\
 24 \\
 \underline{24} \\
 5 \\
 0 \\
 \underline{0} \\
 5
 \end{array}
 = 140 \text{ R } 5$$

$$845 \div 6 = 140 \text{ R } 5.$$

Scoring: 1 point for each correct answer. In part (b), the remainder 5 must be included.

### Question 3: Area model (2 points)

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(a)  $1,200 \div 4 = 300$ ,  $80 \div 4 = 20$ ,  $4 \div 4 = 1$ . (b)  $300 + 20 + 1 = 321$ . So  $1,284 \div 4 = 321$ .

|   | 300                         | 20                      | 1                     |
|---|-----------------------------|-------------------------|-----------------------|
| 4 | $4 \times 300$<br>$= 1,200$ | $4 \times 20$<br>$= 80$ | $4 \times 1$<br>$= 4$ |

Completed area model.

Scoring: 1 point for all three missing numbers (300, 20, 1); 1 point for the quotient 321.

### Question 4: Large dividends (2 points)

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(a)  $3,642 \div 5 = 728 \text{ R } 2$ . (b)  $7,008 \div 8 = 876$ .

$$\begin{array}{r}
 728 \\
 5 \overline{) 3642} \\
 \underline{35} \phantom{0} \\
 14 \\
 \underline{10} \\
 42 \\
 \underline{40} \\
 2
 \end{array}
 = 728 \text{ R } 2$$

$$3,642 \div 5 = 728 \text{ R } 2.$$

*Scoring: 1 point for each correct answer. In part (b), the 0 in the quotient is needed for the point.*

### Question 5: Remainder rules (2 points)

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(a)  $6 \times 52 = 312$  and  $312 + 5 = 317$ . The number is 317. (b) A remainder must be less than the divisor. With a remainder of 7, another group of 6 would still fit, so the quotient would be one larger.

*Scoring: 1 point for 317. 1 point for an explanation that the remainder must be less than the divisor 6.*

### Question 6: Shelves for books (2 points)

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(a)  $83 \div 9 = 9 \text{ R } 2$ . (b) Two books are left over and still need a shelf, so  $9 + 1 = 10$  shelves are needed.

*Scoring: 1 point for 9 R 2. 1 point for the answer 10 shelves, with the reason that the leftover books need a shelf.*

### Question 7: Baseball card pages (3 points)

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$1,003 \div 4 = 250 \text{ R } 3$ . Check:  $4 \times 250 = 1,000$ , then  $1,000 + 3 = 1,003$ .

(a) 250 full pages. (b) 3 cards. (c) The 3 extra cards need one more page:  $250 + 1 = 251$  pages.

$$\begin{array}{r}
 250 = 250 \text{ R } 3 \\
 4 \overline{) 1003} \\
 \underline{8} \phantom{00} \\
 20 \phantom{0} \\
 \underline{20} \phantom{0} \\
 3 \phantom{0} \\
 \underline{0} \\
 3
 \end{array}$$

$$1,003 \div 4 = 250 \text{ R } 3.$$

*Scoring: 1 point for each part. Part (c) needs the quotient rounded up to 251.*

### Question 8: Pencil boxes (3 points)

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$1,250 \div 6 = 208$  R 2. Check:  $6 \times 208 = 1,248$ , then  $1,248 + 2 = 1,250$ .

(a) 208 boxes. (b) 2 pencils. (c)  $208 \times 2 = 416$ , so the store makes \$416.

*Scoring: 1 point for each part. Award part (c) if the multiplication follows from the student's answer to part (a).*

### Question 9: Number puzzles (2 points)

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(a)  $7 \times 128 = 896$  and  $896 + 5 = 901$ . (b)  $9 \times 43 = 387$  and  $390 - 387 = 3$ . The remainder is 3.

*Scoring: 1 point for 901 and 1 point for the remainder 3.*

|                  |
|------------------|
| <b>Total</b>     |
| <b>20 points</b> |