

# Dividing with Remainders

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Score: \_\_\_\_\_ / 24

## Q Quick Review

**Division** splits a number into equal groups. Using long division, you repeat the same cycle: **divide, multiply, subtract, and bring down** the next digit. Work from the left, one digit at a time. Sometimes the number does not split evenly, and the amount left over is the **remainder**. The remainder must always be *smaller* than the divisor. You can check your work:  $(\text{quotient} \times \text{divisor}) + \text{remainder}$  should equal the number you started with.

◇ **Example:** Find  $95 \div 6$ .

⇒ Ask how many 6s fit into 9: that is 1, since  $1 \times 6 = 6$ . Subtract:  $9 - 6 = 3$ . Bring down the 5 to make 35. How many 6s fit into 35? That is 5, since  $5 \times 6 = 30$ . Subtract:  $35 - 30 = 5$ . There are no more digits to bring down, so 5 is the remainder. The answer is 15 R 5. Check:  $15 \times 6 + 5 = 90 + 5 = 95$  — it works!

**Answer:** 15 R 5

## PRACTICE

Divide. Write each answer with its remainder.

- |                  |       |                    |       |
|------------------|-------|--------------------|-------|
| 1. $47 \div 3$   | _____ | 11. $832 \div 9$   | _____ |
| 2. $58 \div 4$   | _____ | 12. $945 \div 8$   | _____ |
| 3. $95 \div 6$   | _____ | 13. $1,234 \div 5$ | _____ |
| 4. $127 \div 5$  | _____ | 14. $2,057 \div 6$ | _____ |
| 5. $238 \div 7$  | _____ | 15. $3,471 \div 8$ | _____ |
| 6. $345 \div 8$  | _____ | 16. $4,206 \div 7$ | _____ |
| 7. $461 \div 9$  | _____ | 17. $5,360 \div 9$ | _____ |
| 8. $523 \div 4$  | _____ | 18. $6,048 \div 4$ | _____ |
| 9. $640 \div 6$  | _____ | 19. $7,125 \div 8$ | _____ |
| 10. $758 \div 7$ | _____ | 20. $8,302 \div 6$ | _____ |

## ◆ Word Problems

21. A teacher has 58 pencils to share equally among 4 groups. How many pencils does each group get, and how many are left over? \_\_\_\_\_
22. There are 127 students going on a field trip. Each van holds 9 students. How many vans are full, and how many students are in the last van? \_\_\_\_\_
23. A baker puts 235 muffins into boxes of 6. How many full boxes are there, and how many muffins are left over? \_\_\_\_\_
24. A school has 1,450 books to put on shelves that each hold 8 books. How many shelves are completely full, and how many books are left over? \_\_\_\_\_



## Answer Keys

- |             |                                     |
|-------------|-------------------------------------|
| 1. 15 R 2   | 13. 246 R 4                         |
| 2. 14 R 2   | 14. 342 R 5                         |
| 3. 15 R 5   | 15. 433 R 7                         |
| 4. 25 R 2   | 16. 600 R 6                         |
| 5. 34       | 17. 595 R 5                         |
| 6. 43 R 1   | 18. 1,512                           |
| 7. 51 R 2   | 19. 890 R 5                         |
| 8. 130 R 3  | 20. 1,383 R 4                       |
| 9. 106 R 4  | 21. 14 pencils, 2 left over         |
| 10. 108 R 2 | 22. 14 full vans, 1 in the last van |
| 11. 92 R 4  | 23. 39 full boxes, 1 left over      |
| 12. 118 R 1 | 24. 181 full shelves, 2 left over   |

### Step-by-Step Explanations

- |  |  |
|--|--|
| 1. 3 goes into 47 fifteen times ( $15 \times 3 = 45$ ) with 2 left over. | 14. $342 \times 6 = 2,052$ , and $2,057 - 2,052 = 5$ , so 342 R 5.                         |
| 2. $14 \times 4 = 56$ , and $58 - 56 = 2$ , so 14 R 2.                   | 15. $433 \times 8 = 3,464$ , and $3,471 - 3,464 = 7$ , so 433 R 7.                         |
| 3. $15 \times 6 = 90$ , and $95 - 90 = 5$ , so 15 R 5.                   | 16. $600 \times 7 = 4,200$ , and $4,206 - 4,200 = 6$ , so 600 R 6.                         |
| 4. $25 \times 5 = 125$ , and $127 - 125 = 2$ , so 25 R 2.                | 17. $595 \times 9 = 5,355$ , and $5,360 - 5,355 = 5$ , so 595 R 5.                         |
| 5. $34 \times 7 = 238$ exactly, so there is no remainder.                | 18. $1,512 \times 4 = 6,048$ exactly, so there is no remainder.                            |
| 6. $43 \times 8 = 344$ , and $345 - 344 = 1$ , so 43 R 1.                | 19. $890 \times 8 = 7,120$ , and $7,125 - 7,120 = 5$ , so 890 R 5.                         |
| 7. $51 \times 9 = 459$ , and $461 - 459 = 2$ , so 51 R 2.                | 20. $1,383 \times 6 = 8,298$ , and $8,302 - 8,298 = 4$ , so 1,383 R 4.                     |
| 8. $130 \times 4 = 520$ , and $523 - 520 = 3$ , so 130 R 3.              | 21. Divide: $58 \div 4 = 14$ R 2. Each group gets 14 pencils with 2 left over.             |
| 9. $106 \times 6 = 636$ , and $640 - 636 = 4$ , so 106 R 4.              | 22. Divide: $127 \div 9 = 14$ R 1. So 14 vans are full and 1 student rides in another van. |
| 10. $108 \times 7 = 756$ , and $758 - 756 = 2$ , so 108 R 2.             | 23. Divide: $235 \div 6 = 39$ R 1. There are 39 full boxes with 1 muffin left over.        |
| 11. $92 \times 9 = 828$ , and $832 - 828 = 4$ , so 92 R 4.               | 24. Divide: $1,450 \div 8 = 181$ R 2. So 181 shelves are full with 2 books left over.      |
| 12. $118 \times 8 = 944$ , and $945 - 944 = 1$ , so 118 R 1.             |  |
| 13. $246 \times 5 = 1,230$ , and $1,234 - 1,230 = 4$ , so 246 R 4.       |  |



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