



MATHEMATICS · GRADE 4

Long Division with Remainders – Grade 4 Practice - Differentiated Practice Packet

Differentiated Practice Packet

BELOW GRADE LEVEL

ON GRADE LEVEL

CHALLENGE



Long Division with Remainders – Grade 4 Practice

Name: _____

Date: _____

Grade: Grade 4

Perform each division problem and write the answer in the form **quotient R remainder** (for example: **12 R 2**). For word problems, also explain what the remainder means in the context.

EXAMPLE

$47 \div 5 = \underline{\quad}$

1) Find how many times 5 fits into 47. $5 \times 9 = 45$ and $5 \times 10 = 50$ (too big), so use 9. 2) Subtract 45 from 47 to get the remainder: $47 - 45 = 2$. 3) Write the answer as quotient and remainder: **9 R 2**.

÷ Part 1: Divide by single-digit divisors

1. $28 \div 3 = \underline{\quad}$

2. $14 \div 4 = \underline{\quad}$

3. $33 \div 6 = \underline{\quad}$

4. $19 \div 2 = \underline{\quad}$

5. $7 \div 3 = \underline{\quad}$

6. $51 \div 8 = \underline{\quad}$

7. $40 \div 7 = \underline{\quad}$

8. $23 \div 5 = \underline{\quad}$

Part 2: Divide two-digit numbers by single- and two-digit divisors

9. $64 \div 12 = \underline{\hspace{2cm}}$

10. $95 \div 9 = \underline{\hspace{2cm}}$

11. $132 \div 11 = \underline{\hspace{2cm}}$

12. $107 \div 13 = \underline{\hspace{2cm}}$

13. $58 \div 15 = \underline{\hspace{2cm}}$

14. $71 \div 14 = \underline{\hspace{2cm}}$

Part 3: Word problems – give answer and explain the remainder

15. A teacher has 29 pencils and puts them into boxes that hold 6 pencils each. How many full boxes does she make, and how many pencils are left over? Write the division answer and explain what the remainder means.

16. There are 83 apples and 8 children. The apples are shared evenly. How many apples does each child get, and how many apples are left over? Write the division answer and explain what the remainder means.

17. A bus holds 12 passengers. On a trip there are 50 people who want to ride. How many full buses are needed and how many people would be left without a seat if only full buses run? Give the division answer and explain the remainder meaning.

18. A gardener plants 37 flowers in groups of 4 in each flowerbed. How many full beds does the gardener fill, and how many flowers remain to plant? Write the division answer and explain what the remainder means.

Answer Key

WORKSHEET - BELOW GRADE LEVEL

1. 9 R 1

1) 5 does not work because $3 \times 9 = 27$ and $3 \times 10 = 30$ (too big). So the quotient is 9. 2) Subtract: $28 - 27 = 1$; that is the remainder. 3) Write final answer: 9 R 1.

Common mistake: Students sometimes divide digits separately and write 2 R 2, confusing place value and giving 2 R 2 instead of 9 R 1.

2. 3 R 2

1) $4 \times 3 = 12$ and $4 \times 4 = 16$ (too big), so quotient is 3. 2) Remainder is $14 - 12 = 2$. 3) Final answer: 3 R 2.

Common mistake: Students sometimes round the division and write 4 R 0, forgetting the actual leftover and giving 4 R 0 instead of 3 R 2.

3. 5 R 3

1) $6 \times 5 = 30$ and $6 \times 6 = 36$ (too big), so quotient is 5. 2) Remainder: $33 - 30 = 3$. 3) Write: 5 R 3.

Common mistake: Students sometimes think $33 \div 6 = 6$ R minus something and write 6 R -3; the common wrong numeric result is 6 R -3 which is invalid.

4. 9 R 1

1) $2 \times 9 = 18$ and $2 \times 10 = 20$ (too big), so quotient is 9. 2) Remainder: $19 - 18 = 1$. 3) Final answer: 9 R 1.

Common mistake: Students sometimes write the decimal 9.5 instead of a remainder and give 9.5 rather than 9 R 1.

5. 2 R 1

1) $3 \times 2 = 6$ and $3 \times 3 = 9$ (too big), so quotient is 2. 2) Remainder: $7 - 6 = 1$. 3) Write: 2 R 1.

Common mistake: Students sometimes write 2.333 or 2.33, converting to decimal instead of using a remainder, which is not allowed for this task.

6. 6 R 3

1) $8 \times 6 = 48$ and $8 \times 7 = 56$ (too big), so quotient is 6. 2) Remainder: $51 - 48 = 3$. 3) Final answer: 6 R 3.

Common mistake: Students sometimes think 8 goes into 51 seven times because $8 \times 7 = 56$ (they misread), producing the wrong answer 7 R -5; the usual numeric wrong answer is 7 R -5 which shows incorrect subtraction.

7. 5 R 5

1) $7 \times 5 = 35$ and $7 \times 6 = 42$ (too big), so quotient is 5. 2) Remainder: $40 - 35 = 5$. 3) Write: 5 R 5.

Common mistake: Students sometimes divide only the tens and write 4 R 5, forgetting to include the ones, giving 4 R 5 instead of 5 R 5.

8. 4 R 3

1) $5 \times 4 = 20$ and $5 \times 5 = 25$ (too big), so quotient is 4. 2) Remainder: $23 - 20 = 3$. 3) Final answer: 4 R 3.

Common mistake: Students sometimes write 4.6 as a decimal answer instead of a remainder and give 4.6 rather than 4 R 3.

9. 5 R 4

1) $12 \times 5 = 60$ and $12 \times 6 = 72$ (too big), so quotient is 5. 2) Remainder: $64 - 60 = 4$. 3) Write answer: 5 R 4.

Common mistake: Students sometimes divide 64 by 2 first and get $32 \div 6$ then write 32 R 0, a wrong method yielding 32 R 0 instead of 5 R 4.

10. 10 R 5

1) $9 \times 10 = 90$ and $9 \times 11 = 99$ (too big), so quotient is 10. 2) Remainder: $95 - 90 = 5$. 3) Final: 10 R 5.

Common mistake: Students sometimes think $9 \times 11 = 99$ is close and write 11 R -4, showing wrong subtraction; a common wrong numeric result is 11 R -4.

11. 12 R 0

1) Know $11 \times 12 = 132$ exactly, so quotient is 12 and remainder is 0. 2) Subtract: $132 - 132 = 0$. 3) Write: 12 R 0.

Common mistake: Students sometimes forget to write remainder 0 and instead write 12 with no remainder; while numerically okay, for this worksheet the required format is 12 R 0.

12. 8 R 3

1) $13 \times 8 = 104$ and $13 \times 9 = 117$ (too big), so quotient is 8. 2) Remainder: $107 - 104 = 3$. 3) Final answer: 8 R 3.

Common mistake: Students sometimes try $13 \times 7 = 91$ and then use 16 R something, giving 16 R - (an impossible result); a common wrong numeric answer is 7 R 16 which shows misplaced subtraction.

13. 3 R 13

1) $15 \times 3 = 45$ and $15 \times 4 = 60$ (too big), so quotient is 3. 2) Remainder: $58 - 45 = 13$. 3) Write answer: 3 R 13.

Common mistake: Students sometimes continue dividing the remainder by the divisor incorrectly and write 3 R 13 as 4 R -2; a common wrong numeric result is 4 R -2, which indicates wrong comparison.

14. 5 R 1

1) $14 \times 5 = 70$ and $14 \times 6 = 84$ (too big), so quotient is 5. 2) Remainder: $71 - 70 = 1$. 3) Final answer: 5 R 1.

Common mistake: Students sometimes divide each digit separately ($7 \div 1$ and $1 \div 4$) and write 7 R -3 or other nonsense; a typical wrong numeric result from bad digit-wise division is 7 R -3.

15. 4 R 5

1) Divide: $29 \div 6 = 4$ with remainder 5 because $6 \times 4 = 24$ and $29 - 24 = 5$. 2) Interpretation: The teacher makes 4 full boxes and 5 pencils remain that do not fill another full box. 3) So the division answer is 4 R 5 and the remainder means 5 pencils are left over (not enough for another full box).

Accept if: Answer must include the division in **quotient R remainder** form (e.g. 4 R 5) and a one-sentence explanation that the remainder is the number of pencils that are not enough to fill another box.

Common mistake: Students sometimes round up and say 5 full boxes, ignoring that the last box would be incomplete, giving 5 R -1 or just 5, which is wrong.

16. 10 R 3

1) Divide: $83 \div 8 = 10$ with remainder 3 because $8 \times 10 = 80$ and $83 - 80 = 3$. 2) Interpretation: Each child gets 10 apples, and 3 apples remain undistributed. 3) So the division answer is 10 R 3 and the remainder means 3 apples are left over.

Accept if: Answer must state the quotient and remainder as **quotient R remainder** (10 R 3) and say that the remainder is the number of apples not given out when sharing evenly.

Common mistake: Students sometimes give decimal 10.375 instead of using remainder, or they say each child gets 11, leaving negative remainder; a common wrong numeric result is 11 R -5.

17. 4 R 2

1) Divide: $50 \div 12 = 4$ with remainder 2 because $12 \times 4 = 48$ and $50 - 48 = 2$. 2) Interpretation: If only full buses run, 4 full buses will carry 48 people and 2 people would be left without a seat. 3) So the division answer is 4 R 2 and the remainder means 2 people have no seat under that restriction.

Accept if: Answer must be in **quotient R remainder** form (4 R 2) and explain that the remainder is the number of people without seats when only full buses run.

Common mistake: Students sometimes round up to 5 buses and say 0 left, ignoring the instruction about 'only full buses', producing 5 R 0 instead of 4 R 2.

18. 9 R 1

1) Divide: $37 \div 4 = 9$ with remainder 1 because $4 \times 9 = 36$ and $37 - 36 = 1$. 2) Interpretation: The gardener fills 9 full flowerbeds and 1 flower remains to plant (not enough to fill another bed). 3) So the division answer is 9 R 1 and the remainder means 1 flower is left over.

Accept if: Answer must show **quotient R remainder** (9 R 1) and state that the remainder is the number of flowers not enough to fill another bed.

Common mistake: Students sometimes try to split the leftover among beds and write 9 R 0 with a note '1 in next bed' instead of showing the remainder; a common wrong numeric result is 9 R 0.



Long Division with Remainders – Grade 4 Practice

Name: _____

Date: _____

Grade: Grade 4

Perform each division problem and write the answer in the form **quotient R remainder** (for example: **12 R 2**). For word problems, also explain what the remainder means in the context.

EXAMPLE

$$74 \div 6 = \underline{\hspace{2cm}}$$

- 1) Divide: 6 goes into 7 one time. Write 1 as the tens of the quotient. $6 \times 1 = 6$. $7 - 6 = 1$. Bring down the 4 $\rightarrow 14$.
- 2) Divide: 6 goes into 14 two times. $6 \times 2 = 12$. $14 - 12 = 2$. No more digits to bring down.
- 3) Quotient is 12 and remainder is 2. Write the answer as **12 R 2**.

÷

Part A: Computation – divide and give remainder

$$1. 49 \div 7 = \underline{\hspace{2cm}}$$

$$2. 58 \div 6 = \underline{\hspace{2cm}}$$

$$3. 172 \div 4 = \underline{\hspace{2cm}}$$

$$4. 215 \div 7 = \underline{\hspace{2cm}}$$

$$5. 389 \div 8 = \underline{\hspace{2cm}}$$

$$6. 624 \div 9 = \underline{\hspace{2cm}}$$

$$7. 801 \div 12 = \underline{\hspace{2cm}}$$

$$8. 999 \div 13 = \underline{\hspace{2cm}}$$

Part B: Word Problems – divide, give remainder, and explain

9. A teacher has **125** reward stickers and wants to give the same whole number of stickers to each of **6** small groups. How many stickers does each group get, and how many stickers are left over?

10. A pizza place makes **48** slices and packs them equally into **5** party boxes. How many slices are in each box and how many slices remain unpacked?

11. A library is rebinding a long set of papers totaling **1,234** pages into volumes that hold **100** pages each. How many full volumes can they make, and how many pages will be left for a final partial volume?

12. Three school buses can each hold **20** students. There are **67** students going on a field trip. How many full buses are needed and how many students will still need seats after those full buses are filled?

13. A farmer packs **1,005** apples into crates that each hold **24** apples. How many full crates does he fill and how many apples remain unpacked?

Answer Key

WORKSHEET - ON GRADE LEVEL

1. 7 R 0

1) Divide: 7 goes into 49 exactly 7 times because $7 \times 7 = 49$. 2) Subtract: $49 - 49 = 0$, so the remainder is 0. 3) Write the result as **7 R 0**.

Common mistake: Some students divide the digits separately ($4 \div 7$ and $9 \div 7$) and write 0 R 4 instead of 7 R 0.

2. 9 R 4

1) 6 goes into 58 nine times because $6 \times 9 = 54$. 2) Subtract: $58 - 54 = 4$, so the remainder is 4. 3) Write the result as **9 R 4**.

Common mistake: Students sometimes round $58 \div 6$ to 10 and write 10 R 0 instead of 9 R 4.

3. 43 R 0

1) Divide: 4 into 17 goes 4 times ($4 \times 4 = 16$). Subtract: $17 - 16 = 1$. Bring down 2 $\rightarrow 12$. 2) Divide: 4 into 12 goes 3 times ($4 \times 3 = 12$). Subtract: $12 - 12 = 0$. 3) Quotient 43, remainder 0 $\rightarrow$ **43 R 0**.

Common mistake: Some students forget to bring the last digit down and give 42 R 4 instead of 43 R 0.

4. 30 R 5

1) 7 into 21 goes 3 times ($7 \times 3 = 21$). Subtract: $21 - 21 = 0$. Bring down 5 $\rightarrow 5$. 2) 7 into 5 goes 0 times, so write 0 in the quotient ones place and remainder is 5. 3) Quotient 30, remainder 5 $\rightarrow$ **30 R 5**.

Common mistake: Students sometimes continue dividing 5 by 7 incorrectly and write 3 R 2 instead of 30 R 5.

5. 48 R 5

1) 8 into 38 goes 4 times ($8 \times 4 = 32$). Subtract: $38 - 32 = 6$. Bring down 9 $\rightarrow 69$. 2) 8 into 69 goes 8 times ($8 \times 8 = 64$). Subtract: $69 - 64 = 5$. 3) Quotient 48, remainder 5 $\rightarrow$ **48 R 5**.

Common mistake: Students sometimes use 9 in the tens place and write 98 R 5 instead of 48 R 5 by misplacing the digit from the first division step.

6. 69 R 3

1) 9 into 62 goes 6 times ($9 \times 6 = 54$). Subtract: $62 - 54 = 8$. Bring down 4 $\rightarrow 84$. 2) 9 into 84 goes 9 times ($9 \times 9 = 81$). Subtract: $84 - 81 = 3$. 3) Quotient 69, remainder 3 $\rightarrow$ **69 R 3**.

Common mistake: Some students divide 624 by 10 instead and write 62 R 4 instead of 69 R 3.

7. 66 R 9

1) 12 into 80 goes 6 times ($12 \times 6 = 72$). Subtract: $80 - 72 = 8$. Bring down 1 $\rightarrow 81$. 2) 12 into 81 goes 6 times ($12 \times 6 = 72$). Subtract: $81 - 72 = 9$. 3) Quotient 66, remainder 9 $\rightarrow$ **66 R 9**.

Common mistake: Students sometimes place the second 6 in the wrong position and write 6 R 81 instead of 66 R 9.

8. 76 R 11

1) 13 into 99 goes 7 times ($13 \times 7 = 91$). Subtract: $99 - 91 = 8$. Bring down 9 $\rightarrow 89$. 2) 13 into 89 goes 6 times ($13 \times 6 = 78$). Subtract: $89 - 78 = 11$. 3) Quotient 76, remainder 11 $\rightarrow$ **76 R 11**.

Common mistake: Some students estimate $13 \times 8 = 104$ and put 78 R 21 (confusing products), giving 78 R 21 instead of 76 R 11.

9. 20 R 5

1) Divide 125 by 6: 6 into 12 goes 2 times $\rightarrow$ 2 in the tens place ($6 \times 2 = 12$), subtract $12 - 12 = 0$, bring down 5 $\rightarrow 5$. 2) 6 into 5 goes 0 times, so quotient is 20 and remainder is 5. 3) Interpretation: Each group gets 20 stickers and 5 stickers are left over.

Accept if: Answer must show the quotient and remainder in the form **q R r** and a one-sentence statement such as “Each group gets 20; 5 stickers are left over.”

Common mistake: Students sometimes round and give 21 stickers per group and say 6 stickers left (21 R 6) instead of 20 R 5.

10. 9 R 3

1) Divide 48 by 5: 5 into 48 goes 9 times ($5 \times 9 = 45$). 2) Subtract: $48 - 45 = 3$, so remainder is 3. 3) Interpretation: Each box has 9 slices and 3 slices remain unpacked.

Accept if: Answer must include the division result in **q R r** form and a brief explanation of the leftover slices (e.g., “9 per box; 3 leftover”).

Common mistake: Some students write 10 R 0 by rounding $48 \div 5$ to 10 instead of finding the true remainder, giving 10 R 0 instead of 9 R 3.

11. 12 R 34

1) Divide 1,234 by 100: 100 goes into 1,234 twelve times ($12 \times 100 = 1,200$). 2) Subtract: $1,234 - 1,200 = 34$, so 34 pages remain. 3) Interpretation: They can make 12 full volumes and 34 pages will go in a final partial volume.

Accept if: Must give the number of full volumes and leftover pages using the form **q R r** and a short phrase such as “12 full volumes; 34 pages left.”

Common mistake: Students sometimes divide by 10 instead of 100 and write 123 R 4, giving 123 R 4 instead of 12 R 34.

12. 3 R 7

1) Divide 67 by 20: 20 goes into 67 three times ($3 \times 20 = 60$). 2) Subtract: $67 - 60 = 7$, so 7 students remain without seats on those three full buses. 3) Interpretation: 3 full buses are used and 7 students still need seats (they will need another bus or arrangement).

Accept if: Answer must state the quotient and remainder as **q R r** and explain the meaning (e.g., “3 full buses; 7 students still need seats”).

Common mistake: Some students mistakenly say 4 buses are needed and record 4 R 13 by adding a bus prematurely, rather than reporting 3 R 7 as the quotient and remainder.

13. 41 R 21

1) Divide 1,005 by 24: $24 \times 41 = 984$ (24 goes into 1005 forty-one times). 2) Subtract: $1,005 - 984 = 21$, so remainder is 21 apples. 3) Interpretation: He fills 41 full crates and 21 apples remain unpacked.

Accept if: Answer must be written as **q R r** and include a short interpretation like “41 full crates; 21 apples left.”

Common mistake: Students sometimes think 24 goes into 100 five times per hundred and write 45 R 5 (mixing place values), giving 45 R 5 instead of 41 R 21.



Long Division with Remainders – Grade 4 (Challenge)

Name: _____

Date: _____

Grade: Grade 4

Perform each division problem and write the answer in the form **quotient R remainder** (for example: **12 R 2**). For word problems, also explain what the remainder means in the context.

EXAMPLE

$$154 \div 7 = \underline{\hspace{2cm}}$$

- 1) Divide the hundreds/tens step: 7 goes into 15 two times because $2 \times 7 = 14$. Write 2 as the first digit of the quotient.
- 2) Subtract 14 from 15 to get a remainder of 1. Bring down the next digit 4 to make 14.
- 3) 7 goes into 14 exactly 2 times because $2 \times 7 = 14$. Subtract 14 from 14 to get 0.
- 4) Quotient is 22 and remainder is 0. In the requested form write: 22 R 0.

÷ **Part 1: Standard long division (write as ****quotient R remainder****)**

$$1. 87 \div 6 = \underline{\hspace{2cm}}$$

$$2. 305 \div 9 = \underline{\hspace{2cm}}$$

$$3. 492 \div 11 = \underline{\hspace{2cm}}$$

$$4. 1,078 \div 12 = \underline{\hspace{2cm}}$$

$$5. 2,341 \div 14 = \underline{\hspace{2cm}}$$

$$6. 5,002 \div 18 = \underline{\hspace{2cm}}$$

7. $8,349 \div 23 = \underline{\hspace{2cm}}$

8. $9,995 \div 27 = \underline{\hspace{2cm}}$

 Part 2: Word problems – divide and explain the remainder

9. A school orders 538 pencils and wants to put the same number in each of 24 classroom boxes. How many pencils are in each box and how many are left over? Explain what the remainder means.

10. A baker has 1,254 cookies and wants to place an equal number of cookies on 40 display trays. How many cookies per tray and how many remain? Explain the remainder.

11. Coach has 2,015 minutes of practice time to divide equally across 28 training sessions. How many whole minutes per session and how many minutes are left over? Explain what the leftover minutes represent.

12. A landscaper has 3,600 square feet of sod to cover 47 identical lawns. Each lawn must receive the same whole number of square feet. How many square feet per lawn and how many square feet remain? Explain the meaning of the remainder.

 Part 3: Challenge items – larger divisors and reasoning

13. $14,782 \div 56 = \underline{\hspace{2cm}}$

14. $27,450 \div 89 = \underline{\hspace{2cm}}$

15. $46,001 \div 127 = \underline{\hspace{2cm}}$

16. $98,765 \div 211 = \underline{\hspace{2cm}}$

17. Extension (early finisher): A charity packs 12,345 meal kits into boxes that hold 34 kits each. Find the quotient and remainder and then state how many additional kits would be needed so every box is full.

Answer Key

WORKSHEET - CHALLENGE

1. 14 R 3

1) 6 goes into 8 one time; $1 \times 6 = 6$. Subtract: $8 - 6 = 2$. Bring down 7 to make 27. 2) 6 goes into 27 four times; $4 \times 6 = 24$. Subtract: $27 - 24 = 3$. No more digits to bring down. 3) Quotient is 14 and remainder is 3; write 14 R 3.

Common mistake: Students sometimes divide only the first digit and stop, writing 1 R 21 instead of 14 R 3.

2. 33 R 8

1) 9 goes into 30 three times; $3 \times 9 = 27$. Subtract: $30 - 27 = 3$. Bring down 5 to make 35. 2) 9 goes into 35 three times; $3 \times 9 = 27$. Subtract: $35 - 27 = 8$. 3) Quotient is 33 and remainder is 8; write 33 R 8.

Common mistake: Students often forget to bring down the final digit, giving 30 R 5 instead of 33 R 8.

3. 44 R 8

1) 11 goes into 49 four times; $4 \times 11 = 44$. Subtract: $49 - 44 = 5$. Bring down 2 to make 52. 2) 11 goes into 52 four times; $4 \times 11 = 44$. Subtract: $52 - 44 = 8$. 3) Quotient is 44 and remainder is 8; write 44 R 8.

Common mistake: Students sometimes use 5 for the first digit because $11 \times 5 = 55$ is close, producing 54 R 2 instead of 44 R 8.

4. 89 R 10

1) 12 goes into 10 zero times for the first digit, but consider 107: 12 goes into 107 eight times; $8 \times 12 = 96$. Subtract: $107 - 96 = 11$. Bring down 8 to make 118. 2) 12 goes into 118 nine times; $9 \times 12 = 108$. Subtract: $118 - 108 = 10$. 3) Quotient is 89 and remainder is 10; write 89 R 10.

Common mistake: Students sometimes try to divide digit-by-digit without grouping, writing 8 R 118 or 89 R 118; a common numeric wrong answer is 89 R 118 which shows they failed to subtract properly.

5. 167 R 3

1) 14 into 23 goes 1 time; $1 \times 14 = 14$. Subtract: $23 - 14 = 9$. Bring down 4 to make 94. 2) 14 into 94 goes 6 times; $6 \times 14 = 84$. Subtract: $94 - 84 = 10$. Bring down 1 to make 101. 3) 14 into 101 goes 7 times; $7 \times 14 = 98$. Subtract: $101 - 98 = 3$. 4) Quotient 167 R 3.

Common mistake: Students sometimes miscount how many times 14 fits into 94 and write 168 R -11 or 166 R 25; a typical wrong numeric result is 168 R -11 showing subtraction errors.

6. 277 R 16

1) 18 into 50 goes 2 times; $2 \times 18 = 36$. Subtract: $50 - 36 = 14$. Bring down 0 to make 140. 2) 18 into 140 goes 7 times; $7 \times 18 = 126$. Subtract: $140 - 126 = 14$. Bring down 2 to make 142. 3) 18 into 142 goes 7 times; $7 \times 18 = 126$. Subtract: $142 - 126 = 16$. 4) Quotient 277 and remainder 16; write 277 R 16.

Common mistake: Students sometimes leave remainder larger than divisor, e.g. 277 R 36, because they fail to perform the final subtraction correctly.

7. 363 R 0

1) 23 into 83 goes 3 times; $3 \times 23 = 69$. Subtract: $83 - 69 = 14$. Bring down 4 to make 144. 2) 23 into 144 goes 6 times; $6 \times 23 = 138$. Subtract: $144 - 138 = 6$. Bring down 9 to make 69. 3) 23 into 69 goes 3 times; $3 \times 23 = 69$. Subtract: $69 - 69 = 0$. 4) Quotient 363 and remainder 0; write 363 R 0.

Common mistake: Students sometimes misplace digits and write 362 R 46 or 363 R 23; a common wrong numeric answer is 362 R 46 from forgetting one subtraction step.

8. 370 R 5

1) Multiply $27 \times 370 = 9,990$. 2) Subtract from 9,995: $9,995 - 9,990 = 5$. 3) Remainder 5 is less than divisor 27, so $9,995 \div 27 = 370 \text{ R } 5$.

Common mistake: Students sometimes forget to bring down the last digit and produce 370 R 50 or 369 R 74; a typical wrong value is 370 R 50 from failing to subtract correctly.

9. 22 R 10

1) Divide 538 by 24. 24 into 53 goes 2 times; $2 \times 24 = 48$. Subtract: $53 - 48 = 5$. Bring down 8 to make 58. 2) 24 into 58 goes 2 times; $2 \times 24 = 48$. Subtract: $58 - 48 = 10$. No more digits. 3) Quotient is 22 with remainder 10. Interpretation: Each box gets 22 pencils and 10 pencils remain unpacked (10 should be kept aside or used differently).

Accept if: Answer must state the quotient and remainder in the form '**number R number**' and include a one-sentence explanation such as 'Each box gets 22 pencils and 10 pencils are left over.'

Common mistake: Students sometimes divide 538 by 24 and round the remainder into the quotient, answering 23 R 6 instead of 22 R 10.

10. 31 R 14

1) Divide 1,254 by 40. 40 into 125 goes 3 times; $3 \times 40 = 120$. Subtract: $125 - 120 = 5$. Bring down 4 to make 54. 2) 40 into 54 goes 1 time; $1 \times 40 = 40$. Subtract: $54 - 40 = 14$. 3) Quotient is 31 and remainder 14. Interpretation: Each tray gets 31 cookies and 14 cookies remain not placed on trays.

Accept if: Answer must include the quotient and remainder in '**# R #**' form and a sentence explaining that the remainder is the number of cookies left over not placed on trays.

Common mistake: Students sometimes treat the remainder as an extra cookie per tray and answer 32 R 6 or say '32 per tray', which is incorrect; a common wrong numeric answer is 32 R 14.

11. 71 R 27

1) Multiply $28 \times 71 = 1,988$. 2) Subtract from 2,015: $2,015 - 1,988 = 27$. 3) Remainder 27 is less than divisor 28, so $2,015 \div 28 = 71 \text{ R } 27$.

Accept if: Answer must show the division as '**# R #**' and state that the remainder is minutes left over not allocated to full sessions.

Common mistake: Students sometimes misplace digits and give 72 R 11 or 71 R 23; a common wrong numeric answer is 72 R 11 from incorrect subtraction.

12. 76 R 28

1) Divide 3,600 by 47. 47 into 360 goes 7 times; $7 \times 47 = 329$. Subtract: $360 - 329 = 31$. Bring down 0 to make 310. 2) 47 into 310 goes 6 times; $6 \times 47 = 282$. Subtract: $310 - 282 = 28$. 3) Quotient 76 and remainder 28. Interpretation: Each lawn gets 76 square feet and 28 square feet of sod remain unused.

Accept if: Answer must be in '**# R #**' form and include a sentence explaining that the remainder is the number of square feet left over.

Common mistake: Students sometimes round the remainder into the quotient, answering 77 R -19 or say '77 sq ft each' incorrectly; a common wrong numeric answer is 77 R -19 showing sign errors.

13. 263 R 54

1) 56 into 147 goes 2 times; $2 \times 56 = 112$. Subtract: $147 - 112 = 35$. Bring down 8 to make 358. 2) 56 into 358 goes 6 times; $6 \times 56 = 336$. Subtract: $358 - 336 = 22$. Bring down 2 to make 222. 3) 56 into 222 goes 3 times; $3 \times 56 = 168$. Subtract: $222 - 168 = 54$. 4) Quotient 263 and remainder 54; write 263 R 54.

Common mistake: Students may use 4 instead of 3 for the last digit (since $4 \times 56 = 224$ close to 222), producing 264 R -2 or 264 R 218; a common wrong numeric result is 264 R -2 indicating subtraction errors.

14. 308 R 38

1) Multiply $89 \times 308 = 89 \times 300 + 89 \times 8 = 26,700 + 712 = 27,412$. 2) Subtract from 27,450: $27,450 - 27,412 = 38$. 3) Remainder 38 is less than divisor 89, so $27,450 \div 89 = 308 \text{ R } 38$.

Common mistake: Students sometimes compute product 89×308 incorrectly and write 308 R 18; a common wrong numeric answer is 308 R 18 from multiplication error.

15. 362 R 27

1) Multiply $127 \times 362 = 127 \times 300 + 127 \times 60 + 127 \times 2 = 38,100 + 7,620 + 254 = 45,974$. 2) Subtract from 46,001: $46,001 - 45,974 = 27$. 3) Remainder 27 is less than divisor 127, so $46,001 \div 127 = 362 \text{ R } 27$.

Common mistake: Students sometimes mis-subtract and report remainder 15 or 17; a typical wrong numeric answer is 362 R 15 from arithmetic mistakes.

16. 468 R 17

1) Multiply $211 \times 468 = 211 \times 400 + 211 \times 60 + 211 \times 8 = 84,400 + 12,660 + 1,688 = 98,748$. 2) Subtract from 98,765: $98,765 - 98,748 = 17$. 3) Remainder 17 is less than divisor 211, so $98,765 \div 211 = 468 \text{ R } 17$.

Common mistake: Students sometimes report remainder 77 due to a digit-bringing mistake; a common wrong numeric answer is 468 R 77 from misaligning which digit was brought down.

17. 363 R 3

1) Try $34 \times 363 = 34 \times 360 + 34 \times 3 = 12,240 + 102 = 12,342$. 2) Subtract from 12,345: $12,345 - 12,342 = 3$. 3) Remainder 3 is less than divisor 34, so $12,345 \div 34 = 363 \text{ R } 3$. To fill the last box you need $34 - 3 = 31$ more kits.

Accept if: Answer must give the division as '# R #' and state the exact number of additional kits required to fill the final box (a single whole number).

Common mistake: Students may miscompute quotient digits and give 362 R 13 and then state 21 more kits; a common wrong numeric answer is 362 R 13 from an early subtraction mistake.