



MATHS · YEAR 4

Long Division with Remainders - Differentiated Practice Pack

Differentiated Practice Pack

WORKING TOWARDS

EXPECTED STANDARD

GREATER DEPTH



Long Division with Remainders

Name: _____

Date: _____

Year: Year 4

Calculate each division carefully. Write remainders using r. Show your working in your exercise book, then solve the word problems.

EXAMPLE

$84 \div 4 = \underline{\quad}$

Divide the tens: 8 tens $\div$ 4 = 2 tens. Divide the ones: 4 ones $\div$ 4 = 1 one. Combine: 21.

÷ Part 1: Short Division Practice

1. $65 \div 3 = \underline{\quad}$

2. $78 \div 4 = \underline{\quad}$

3. $93 \div 5 = \underline{\quad}$

4. $146 \div 3 = \underline{\quad}$

📊 Part 2: Long Division Steps

5. $235 \div 4 = \underline{\quad}$

6. $317 \div 5 = \underline{\quad}$

$7. 428 \div 6 = \underline{\hspace{2cm}}$

$8. 563 \div 7 = \underline{\hspace{2cm}}$

$9. 749 \div 8 = \underline{\hspace{2cm}}$

Part 3: Division in Real Life

10. A school has 86 pencils. They are shared equally between 4 tables. How many pencils does each table get, and how many are left?

11. A walking club walks 157 metres in equal sections of 5 metres. How many full sections can they walk, and how many metres are left?

12. A café has 238 millilitres of juice. It pours the juice into bottles holding 6 millilitres each. How many full bottles can be filled, and how many millilitres are left?

13. A charity collects £3.75 in coins. It puts the money into equal groups of 8 pence. How many complete 8p groups can be made, and how many pence are left?

Mark scheme

WORKSHEET - WORKING TOWARDS

1. 21 r 2

- 1) 3 goes into 6 two times. Write 2 in the tens place. 2) Carry the remaining 0 tens and divide 5 ones: $5 \div 3 = 1$ remainder 2. 3) So, $65 \div 3 = 21 \text{ r } 2$.

Common mistake: Students often write 21 r 5 by forgetting to use the 3 groups already made when dividing the ones.

2. 19 r 2

- 1) 4 goes into 7 one time, with 3 tens left. 2) Regroup the 3 tens as 30 ones. Add the 8 ones to make 38 ones. 3) $38 \div 4 = 9 \text{ r } 2$, so the answer is 19 r 2.

Common mistake: Students often write 18 r 6 by failing to regroup the 3 tens before dividing the ones.

3. 18 r 3

- 1) 5 goes into 9 one time, with 4 tens left. 2) Regroup 4 tens as 40 ones. Then $40 + 3 = 43$ ones. 3) $43 \div 5 = 8 \text{ r } 3$, so the answer is 18 r 3.

Common mistake: Students often write 19 r 3 by treating 93 as 5 groups of 19, even though 5×19 is greater than 93.

4. 48 r 2

- 1) 3 goes into 14 four times, with 2 left. Write 4 in the tens place. 2) Regroup the 2 tens as 20 ones and add 6 to make 26 ones. 3) $26 \div 3 = 8 \text{ r } 2$, so the answer is 48 r 2.

Common mistake: Students often write 46 r 8 by dividing 6 by 3 without bringing down the remaining 2 tens.

5. 58 r 3

- 1) 4 goes into 23 five times: $5 \times 4 = 20$, leaving 3. 2) Bring down the 5 to make 35. 4 goes into 35 eight times: $8 \times 4 = 32$, leaving 3. 3) The quotient is 58 and the remainder is 3: 58 r 3.

Common mistake: Students often write 57 r 7 because they subtract 28 from 35 instead of subtracting 32.

6. 63 r 2

- 1) 5 goes into 31 six times: $6 \times 5 = 30$, leaving 1. 2) Bring down the 7 to make 17. 5 goes into 17 three times: $3 \times 5 = 15$, leaving 2. 3) The answer is 63 r 2.

Common mistake: Students often write 62 r 7 because they choose 2 instead of the greatest whole number that fits into 17.

7. 71 r 2

- 1) 6 goes into 42 seven times: $7 \times 6 = 42$, leaving 0. 2) Bring down the 8. 6 goes into 8 one time: $1 \times 6 = 6$, leaving 2. 3) The answer is 71 r 2.

Common mistake: Students often write 70 r 8 by stopping after dividing 42 and forgetting to divide the final 8.

8. 80 r 3

- 1) 7 goes into 56 eight times: $8 \times 7 = 56$, leaving 0. 2) Bring down the 3. 7 goes into 3 zero times, leaving 3. 3) The answer is 80 r 3. The zero must be kept as a place-holder.

Common mistake: Students often write 8 r 3 or 83 r 0 because they do not record the zero in the tens place.

9. 93 r 5

- 1) 8 goes into 74 nine times: $9 \times 8 = 72$, leaving 2. 2) Bring down the 9 to make 29. 8 goes into 29 three times: $3 \times 8 = 24$, leaving 5. 3) The answer is 93 r 5.

Common mistake: Students often write 94 r 1 because they round 29 up to 30 before dividing.

10. 21 pencils each, with 2 pencils left

1) Divide the pencils: $86 \div 4$. 2) 4 goes into 86 twenty-one times, because $4 \times 21 = 84$. 3) Subtract: $86 - 84 = 2$. Each table gets 21 pencils, with 2 left.

Accept if: The answer must state both the equal share, 21 pencils per table, and the remainder, 2 pencils left.

Common mistake: Students often say 22 pencils each by rounding the remainder up, but there are not enough pencils for every table to get 22.

11. 31 full sections, with 2 metres left

1) Divide the distance: $157 \div 5$. 2) $5 \times 31 = 155$, so 31 full sections can be made. 3) Subtract: $157 - 155 = 2$. There are 2 metres left.

Accept if: The answer must identify 31 complete 5-metre sections and 2 metres remaining.

Common mistake: Students often give 31 r 2 without explaining what the quotient and remainder mean in the walking situation.

12. 39 full bottles, with 4 millilitres left

1) Divide the juice: $238 \div 6$. 2) $6 \times 39 = 234$, so 39 full bottles can be filled. 3) Subtract: $238 - 234 = 4$. There are 4 millilitres left.

Accept if: The answer must state 39 full bottles and 4 millilitres left over.

Common mistake: Students often write 40 bottles because they round 39 r 4 up, but a 40th full bottle would need 240 millilitres.

13. 46 complete groups, with 7p left

1) Change £3.75 into pence: $\text{£}3.75 = 375\text{p}$. 2) Divide: $375 \div 8 = 46 \text{ r } 7$, because $8 \times 46 = 368$. 3) There are 7p left after making 46 complete groups.

Accept if: The answer must show 46 complete groups of 8p and 7p remaining.

Common mistake: Students often divide 3.75 by 8 and give an answer in pounds, instead of changing the amount to pence first.



Long Division with Remainders

Name: _____ Date: _____ Year: Year 4

Calculate each division carefully. Write remainders using r. Show your working in your exercise book, then solve the word problems.

EXAMPLE

$84 \div 4 = \underline{\quad}$

Divide the tens: $8 \div 4 = 2$. Divide the ones: $4 \div 4 = 1$. Combine the digits: 21. So, $84 \div 4 = 21$.

÷ Part 1: Short Division

1. $57 \div 3 = \underline{\quad}$

2. $76 \div 4 = \underline{\quad}$

3. $95 \div 6 = \underline{\quad} \text{ r } \underline{\quad}$

4. $248 \div 3 = \underline{\quad} \text{ r } \underline{\quad}$

📊 Part 2: Long Division Practice

5. $132 \div 4 = \underline{\quad}$

6. $275 \div 5 = \underline{\quad}$

7. $346 \div 7 = ___ r ___$

8. $583 \div 6 = ___ r ___$

9. $927 \div 8 = ___ r ___$

Part 3: Division in Everyday Life

10. A school orders 158 pencils. They are shared equally between 4 classrooms. How many pencils does each classroom receive, and how many are left over?

11. A charity has 275 grams of rice and fills bags with 6 grams in each bag. How many full bags can be filled, and how many grams are left?

12. A walking route is 643 metres long. It is marked with equal sections of 7 metres. How many complete sections can be marked, and how many metres are not in a complete section?

13. A café has 918 millilitres of juice. It pours 8 millilitres into each sample cup. How many completely filled sample cups can it make, and how many millilitres are left?

Mark scheme

WORKSHEET - EXPECTED STANDARD

1. 19

1) Divide the tens: $5 \div 3 = 1$ remainder 2. 2) Regroup the 2 tens as 20 ones, making 27 ones. 3) $27 \div 3 = 9$, so the answer is 19.

Common mistake: Students often divide only the first digit and write 1 instead of completing the division to get 19.

2. 19

1) Divide the tens: $7 \div 4 = 1$ remainder 3. 2) Regroup the 3 tens as 30 ones, making 36 ones. 3) $36 \div 4 = 9$, so the answer is 19.

Common mistake: Students often ignore the remainder from the tens and write 16 instead of 19.

3. 15 r 5

1) 6 goes into 9 once, with 3 left over. 2) Regroup the 3 tens as 30 ones, making 35 ones. 3) 6 goes into 35 five times, with 5 left over: 15 r 5.

Common mistake: Students often write 15 r 35 by failing to regroup the tens before dividing the ones.

4. 82 r 2

1) 2 hundreds cannot be divided into groups of 3, so use 24 tens: $24 \div 3 = 8$. 2) Bring down the 8 ones: $8 \div 3 = 2$ remainder 2. 3) The quotient is 82 and the remainder is 2.

Common mistake: Students often use 8 as the first quotient digit and write 812 instead of recognising that 2 hundreds must be regrouped with the tens.

5. 33

1) 4 goes into 13 three times, with 1 left over. 2) Regroup the leftover ten as 10 ones, making 12 ones. 3) $12 \div 4 = 3$, so the answer is 33.

Common mistake: Students often put a zero in the quotient after dividing 13 and write 30 instead of 33.

6. 55

1) 5 goes into 27 five times, with 2 left over. 2) Regroup the leftover 2 tens as 20 ones, making 25 ones. 3) $25 \div 5 = 5$, so the answer is 55.

Common mistake: Students often divide 27 by 5 incorrectly and write 45 instead of 55.

7. 49 r 3

1) 7 goes into 34 four times, with 6 left over. 2) Regroup the 6 tens as 60 ones, making 66 ones. 3) 7 goes into 66 nine times, with 3 left over: 49 r 3.

Common mistake: Students often use 10 instead of 9 for the final quotient digit and produce a remainder that is too large.

8. 97 r 1

1) 6 goes into 58 nine times, with 4 left over. 2) Regroup the 4 tens as 40 ones, making 43 ones. 3) 6 goes into 43 seven times, with 1 left over: 97 r 1.

Common mistake: Students often calculate $58 \div 6$ as 10 and write 107 r 1, forgetting that the quotient digit must be less than 10.

9. 115 r 7

1) 8 goes into 9 once, with 1 left over; bring down 2 to make 12. 2) 8 goes into 12 once, with 4 left over; bring down 7 to make 47. 3) 8 goes into 47 five times, with 7 left over: 115 r 7.

Common mistake: Students often forget the middle quotient digit and write 15 r 7 instead of 115 r 7.

10. 39 pencils each, 2 pencils left over

1) Divide the total by the number of classrooms: $158 \div 4$. 2) 4 goes into 158 39 times, with 2 left over. 3) Each classroom receives 39 pencils, and 2 pencils are left over.

Accept if: The response must state both 39 pencils for each classroom and 2 pencils left over.

Common mistake: Students often round 39 r 2 up to 40 and say each classroom receives 40 pencils, which would require 160 pencils.

11. 45 full bags, 5 grams left

1) Divide the rice by the amount in each bag: $275 \div 6$. 2) 6 goes into 275 45 times, with 5 left over. 3) So, 45 full bags can be filled and 5 grams remain.

Accept if: The response must state both 45 full bags and 5 grams left.

Common mistake: Students often write 46 full bags by rounding the quotient up, but 46 bags would need 276 grams.

12. 91 complete sections, 6 metres left

1) Divide the total length by the section length: $643 \div 7$. 2) 7 goes into 643 91 times, with 6 left over. 3) Therefore, 91 complete sections can be marked and 6 metres remain.

Accept if: The response must include 91 complete sections and 6 metres not in a complete section.

Common mistake: Students often use 92 sections by rounding up, although 92 sections would be 644 metres.

13. 114 completely filled cups, 6 millilitres left

1) Divide the juice by the amount in each cup: $918 \div 8$. 2) 8 goes into 918 114 times, with 6 left over. 3) The café can fill 114 complete cups, with 6 millilitres remaining.

Accept if: The response must state both 114 completely filled cups and 6 millilitres left.

Common mistake: Students often write 115 cups by rounding up, but 115 cups would require 920 millilitres.



Long Division with Remainders - Challenge Practice

Name: _____ Date: _____ Year: Year 4

Calculate each division carefully. Write remainders using r. Show your working in your exercise book, then solve the word problems. Read each question closely and decide what the remainder means.

EXAMPLE

$$847 \div 6 = \underline{\hspace{2cm}}$$

6 goes into 8 once, leaving 2. Bring down 4 to make 24; 6 goes into 24 four times. Bring down 7; 6 goes into 7 once, leaving 1. Therefore, $847 \div 6 = 141 \text{ r}1$.

÷ Part 1: Warm-up Divisions

$$1. 847 \div 6 = \underline{\hspace{2cm}}$$

$$2. 2,936 \div 7 = \underline{\hspace{2cm}}$$

$$3. 5,824 \div 8 = \underline{\hspace{2cm}}$$

$$4. 9,753 \div 4 = \underline{\hspace{2cm}}$$

📄 Part 2: Long Division Challenge

$$5. 4,387 \div 9 = \underline{\hspace{2cm}}$$

$$6. 7,265 \div 6 = \underline{\hspace{2cm}}$$

7. $9,086 \div 7 = \underline{\hspace{2cm}}$

8. $15,432 \div 8 = \underline{\hspace{2cm}}$

Part 3: What Does the Remainder Mean?

9. A school has 3,865 pencils. Pupils put 6 pencils into each pack. How many **full packs** can they make, and how many pencils are left over?

10. A coach is taking 451 pupils to a museum. Each minibus holds 7 pupils. What is the **smallest number of minibuses** needed?

11. A charity shares 2,875p equally between 8 teams. How many pence does each team receive, and how many pence remain?

12. Find the smallest whole number greater than 5,000 that leaves a remainder of 3 when divided by 8. Explain how you know.

 Part 4: Division in Real Life

13. A science technician has 1,258 millilitres of solution and pours it equally into 5 bottles. How many whole millilitres go into each bottle, and how many millilitres remain?

14. A bakery has 4,175 grams of dough. It makes rolls using 9 grams per roll. How many **complete rolls** can be made, and how many grams of dough remain?

15. A group buys a set of craft materials costing £3.68 and shares the cost equally between 7 pupils. How much does each pupil pay in whole pence, and how many pence are left?

16. A farm packs 238 apples into each of 6 crates. The apples are then shared equally into 7 market baskets. How many apples go into each basket?

Mark scheme

WORKSHEET - GREATER DEPTH

1. 141 r1

1) 6 goes into 8 once, leaving 2. 2) Bring down 4 to make 24; 6 goes into 24 four times. 3) Bring down 7; 6 goes into 7 once, leaving 1, so the answer is **141 r1**.

Common mistake: Students often write 142 r1 by rounding the final 7 up instead of recording the remainder.

2. 419 r3

1) 7 goes into 29 four times, leaving 1; bring down 3 to make 13. 2) 7 goes into 13 once, leaving 6; bring down 6 to make 66. 3) 7 goes into 66 nine times, leaving 3, so the answer is **419 r3**.

Common mistake: Students often forget to bring down the final digit and give 41 r3 instead of 419 r3.

3. 728

1) 8 goes into 58 seven times, leaving 2; bring down 2 to make 22. 2) 8 goes into 22 two times, leaving 6; bring down 4 to make 64. 3) 8 goes into 64 eight times with no remainder, so the answer is **728**.

Common mistake: Students often write 727 r8, but a remainder must be smaller than the divisor, so 8 must be regrouped as another group.

4. 2,438 r1

1) 4 goes into 9 two times, leaving 1; bring down 7 to make 17. 2) 4 goes into 17 four times, leaving 1; bring down 5 to make 15, then bring down 3 after recording 3 groups. 3) 4 goes into 13 three times, leaving 1, so the answer is **2,438 r1**.

Common mistake: Students often write 2,439 because they round the final quotient up instead of keeping the remainder 1.

5. 487 r4

1) 9 goes into 43 four times, leaving 7; bring down 8 to make 78. 2) 9 goes into 78 eight times, leaving 6; bring down 7 to make 67. 3) 9 goes into 67 seven times, leaving 4, so the answer is **487 r4**.

Common mistake: Students often use 9 groups in the tens place and write 497 r4, misreading 78.

6. 1,210 r5

1) 6 goes into 7 once, leaving 1; bring down 2 to make 12, giving 2 tens. 2) Bring down 6; 6 goes into 6 once, leaving 0. Bring down 5; 6 goes into 5 zero times, leaving 5. 3) The zero belongs in the tens place of the quotient, so the answer is **1,210 r5**.

Common mistake: Students often omit the zero in the quotient and write 121 r5 instead of 1,210 r5.

7. 1,298

1) 7 goes into 9 once, leaving 2; bring down 0 to make 20, giving 2. 2) 7 goes into 20 twice, leaving 6; bring down 8 to make 68. 3) 7 goes into 68 nine times, leaving 5; this indicates the earlier calculation needs checking. Since $7 \times 1,298 = 9,086$, the correct quotient is **1,298** with no remainder.

Common mistake: Students often treat the zero in 9,086 as a remainder and write 1,289 r5 instead of placing the zero correctly in the working.

8. 1,929

1) 8 goes into 15 once, leaving 7; bring down 4 to make 74, giving 9 and leaving 2. 2) Bring down 3 to make 23; 8 goes into 23 twice, leaving 7; bring down 2 to make 72. 3) 8 goes into 72 nine times with no remainder, so the answer is **1,929**.

Common mistake: Students often write 1,928 r8, but 8 groups of 8 can be made from the final 72, leaving no remainder.

9. 644 full packs and 1 pencil left over

1) Divide the pencils by the number in each pack: $3,865 \div 6 = 644 \text{ r}1$. 2) The quotient, 644, is the number of full packs. 3) The remainder, 1, is the number of pencils left over.

Accept if: The answer must state both 644 full packs and 1 pencil left over, and must explain that the remainder is the unused pencil.

Common mistake: Students often round to 645 packs, but the extra pack would not contain 6 pencils.

10. 65 minibuses

1) Divide 451 by 7: $451 \div 7 = 64 \text{ r}3$. 2) 64 minibuses would carry only 448 pupils, leaving 3 pupils without seats. 3) Use one more minibus, so the smallest number needed is **65**.

Accept if: The answer must be 65 minibuses and must show that the remainder means another minibus is required.

Common mistake: Students often answer 64 because they discard the remainder, even though 3 pupils still need seats.

11. 359p per team and 3p remain

1) Divide 2,875p by 8: $2,875 \div 8 = 359 \text{ r}3$. 2) The quotient means each team receives 359p. 3) The remainder means 3p cannot be shared equally between all 8 teams.

Accept if: The answer must state 359p for each team and 3p remaining.

Common mistake: Students often write £3.59 r3, mixing pounds with the remainder instead of keeping the whole calculation in pence.

12. 5,003

1) 5,000 divides exactly by 8 because $8 \times 625 = 5,000$. 2) The next number, 5,001, leaves a remainder of 1, so 5,003 leaves a remainder of 3. 3) Therefore, the smallest suitable number is **5,003**.

Accept if: The response must give 5,003 and show that $5,003 = 8 \times 625 + 3$.

Common mistake: Students often choose 5,011 by adding 3 to the next multiple of 8, forgetting that 5,000 itself is already a multiple of 8.

13. 251 millilitres per bottle and 3 millilitres remain

1) Calculate $1,258 \div 5 = 251 \text{ r}3$. 2) The quotient gives 251 millilitres in each bottle. 3) The remainder gives 3 millilitres left over.

Accept if: The answer must include 251 millilitres in each bottle and 3 millilitres remaining.

Common mistake: Students often round 251 r3 to 252 millilitres, which would require 1,260 millilitres altogether.

14. 463 complete rolls and 8 grams remain

1) Divide 4,175 by 9: $4,175 \div 9 = 463 \text{ r}8$. 2) The quotient is the number of complete rolls. 3) The remainder is the dough left after making those rolls.

Accept if: The answer must state 463 complete rolls and 8 grams of dough remaining.

Common mistake: Students often write 464 rolls because they round the quotient up, but 464 rolls would need 4,176 grams.

15. 52p each and 4p left

1) Convert £3.68 to 368p. 2) Divide 368p by 7: $368 \div 7 = 52 \text{ r}4$. 3) Each pupil pays 52p, with 4p left over.

Accept if: The answer must state 52p for each pupil and 4p left over, with £3.68 converted to 368p.

Common mistake: Students often divide 3.68 by 7 and give a decimal pound amount, instead of using whole pence as the question requires.

16. 204 apples

1) First find the total number of apples: $238 \times 6 = 1,428$. 2) Share the total equally: $1,428 \div 7 = 204$. 3) Therefore, each basket contains **204 apples**.

Accept if: The answer must be 204 apples per basket and must show both the multiplication and the division.

Common mistake: Students often divide 238 by 7 first and ignore the six crates, giving 34 apples instead of 204.