

Maths Error Detectives

Error Analysis & Mathematical Reasoning

Spot the Error • Explain the Mistake • Correct the Working

UK & US
Editions

Place Value Clues FOUND
Read digits by their place, not by how they look.

CASE A
In 4,582, the digit 5 is worth 50.
Find the error, explain it, then correct it.
WHAT WENT WRONG?

CORRECT WORKING / ANSWER

CASE C
 $3,099 > 3,900$
Find the error, explain it, then correct it.
WHAT WENT WRONG?

CORRECT WORKING / ANSWER

Addition Investigations
Check regrouping and place-value alignment.

CASE A
 $347 + 286 = 523$
Find the error, explain it, then correct it.
WHAT WENT WRONG?

CORRECT WORKING / ANSWER

CASE C
 $2,409 + 375 = 2,774$
Find the error, explain it, then correct it.
WHAT WENT WRONG?

CORRECT WORKING / ANSWER

MATHS ERROR DETECTIVES
Spot it • Explain it • Fix it
Reasoning & Error Analysis Activities • Ages 7–11

80+
fixed-answer cases

3
difficulty ranks

19
core skill pages

FOUNDATION Place value • four operations • rounding

DEVELOPING strategies • fractions • decimals

REASONING money • time • measure • geometry • problems

Includes explanation space, correction space, open-ended case creation and full worked solutions.

UK EDITION

MORNING WORK One case at a time for a focused reasoning start.	SMALL GROUPS Discuss different explanations before correcting.
INTERVENTION Target misconceptions instead of repeating drill.	EARLY FINISHERS Use the higher-rank cases for meaningful extension.

46
pages

ROJJI PATH • Maths Error Detectives • UK Edition

Teach • Practise • Apply • Worked Solutions

What's Included

A look inside both 46-page editions

- 3 Difficulty Ranks
- 80+ Error Detective Cases
- Mixed Maths Skills Practice
- Full Worked Solutions
- Final Challenge Board
- UK & US Editions Included

Addition Investigations	
FOUNDATION RANK	
Check regrouping and place-value alignment.	
CASE A $347 + 286 = 523$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER 	CASE B $598 + 67 = 655$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER
CASE C $2,409 + 375 = 2,774$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER 	CASE D $4,125 + 1,999 = 5,124$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER

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Division Foundations	
FOUNDATION RANK	
Use multiplication to check every quotient.	
CASE A $42 \div 6 = 8$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER 	CASE B $56 \div 7 = 7$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER
CASE C $96 \div 4 = 34$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER 	CASE D $75 \div 5 = 10 \text{ remainder } 25$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER

Subtraction Investigations	
FOUNDATION RANK	
Look closely at regrouping across zeros and place values.	
CASE A $812 - 376 = 546$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER 	CASE B $1,000 - 458 = 652$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER
CASE C $630 - 285 = 455$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER 	CASE D $5,003 - 1,875 = 3,238$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER

Rounding & Number Lines	
FOUNDATION RANK	
Decide which benchmark is actually closest.	
CASE A 347 rounded to the nearest 10 is 300. <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER 	CASE B 651 rounded to the nearest 100 is 600. <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER
CASE C 396 is halfway between 300 and 400. <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER 	CASE D $1,249$ rounded to the nearest 100 is 1,300. <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER

Multiplication Strategies	
DEVELOPING RANK	
Break factors apart accurately and estimate sensibly.	
CASE A $23 \times 14 = 232$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER 	CASE B $36 \times 12 = (36 \times 10) + 2 = 362$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER
CASE C $105 \times 6 = 530$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER 	CASE D $48 \times 25 = 120$ <i>Find the error, explain it, then correct it.</i> WHAT WENT WRONG? CORRECT WORKING / ANSWER

Think Like a Maths Detective

What Went Wrong?

How Do I Fix It?

Why Is It Correct?

Equivalent Fractions

DEVELOPING RANK

Whatever happens to the numerator must also happen to the denominator.

CASE A $\frac{1}{2} = \frac{3}{5}$ Find the error, explain it, then correct it. WHAT WENT WRONG?	CASE B $\frac{2}{3} = \frac{4}{5}$ Find the error, explain it, then correct it. WHAT WENT WRONG?
CORRECT WORKING / ANSWER	CORRECT WORKING / ANSWER

CASE C $\frac{3}{4} = \frac{6}{10}$ Find the error, explain it, then correct it. WHAT WENT WRONG?	CASE D $\frac{5}{10} = \frac{2}{5}$ Find the error, explain it, then correct it. WHAT WENT WRONG?
CORRECT WORKING / ANSWER	CORRECT WORKING / ANSWER

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Angles & Shape Properties

REASONING RANK

Use definitions, not appearance alone.

CASE A A right angle measures 100°. Find the error, explain it, then correct it. WHAT WENT WRONG?	CASE B An acute angle is greater than 90°. Find the error, explain it, then correct it. WHAT WENT WRONG?
CORRECT WORKING / ANSWER	CORRECT WORKING / ANSWER

CASE C Every quadrilateral has four equal sides. Find the error, explain it, then correct it. WHAT WENT WRONG?	CASE D A cube has 6 faces, 8 vertices and 10 edges. Find the error, explain it, then correct it. WHAT WENT WRONG?
CORRECT WORKING / ANSWER	CORRECT WORKING / ANSWER

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Addition Investigations

FOUNDATION RANK

Check regrouping and place-value alignment.

CASE A $347 + 286 = 523$ Find the error, explain it, then correct it. WHAT WENT WRONG?	CASE B $598 + 67 = 655$ Find the error, explain it, then correct it. WHAT WENT WRONG?
CORRECT WORKING / ANSWER	CORRECT WORKING / ANSWER

CASE C $2,409 + 375 = 2,774$ Find the error, explain it, then correct it. WHAT WENT WRONG?	CASE D $4,125 + 1,999 = 5,124$ Find the error, explain it, then correct it. WHAT WENT WRONG?
CORRECT WORKING / ANSWER	CORRECT WORKING / ANSWER

KS2 PATH • Maths Error Detectives • UK Edition

Spot the error • Explain the maths • Correct the working

Full Worked Solutions

Worked Solutions • Place Value

Align place values: ones, tenths and hundredths.

CASE A CLAIM: $0.7 < 0.65$
WHAT WENT WRONG? The decimals were compared by digit count rather than place value.
CORRECT WORKING
 $0.7 = 0.70$
 $0.70 = 70$ hundredths
 $0.65 = 65$ hundredths
 $70 > 65$
ANSWER $0.7 > 0.65$.

CASE B CLAIM: $3.04 = 3.4$
WHAT WENT WRONG? 4 hundredths and 4 tenths are different place values.
CORRECT WORKING
 $3.04 = 3.04$
 $3.4 = 3.40$

Worked Solutions • Addition Investigations

Regroup carefully and keep place values aligned.

CASE A CLAIM: $347 + 286 = 523$
WHAT WENT WRONG? Regrouped tens/hundreds were not carried correctly.
CORRECT WORKING
Ones: $7 + 6 = 13 \rightarrow$ write 3, carry 1 ten
Tens: $4 + 8 + 1 = 13 \rightarrow$ write 3, carry 1 hundred
Hundreds: $3 + 2 + 1 = 6$
ANSWER $347 + 286 = 633$.

CASE B CLAIM: $598 + 67 = 655$
WHAT WENT WRONG? The regrouped ten from $8 + 7$ was not fully included in the tens total.
CORRECT WORKING
Write 67 as 067.
Ones: $8 + 7 = 15 \rightarrow$ write 5, carry 1
Tens: $9 + 6 + 1 = 16 \rightarrow$ write 6, carry 1
Hundreds: $5 + 0 + 1 = 6$
ANSWER $598 + 67 = 665$.

CASE C CLAIM: $2,409 + 375 = 2,774$
WHAT WENT WRONG? The tens column was calculated incorrectly after regrouping from the ones.
CORRECT WORKING
Write 375 as 0375.
Ones: $9 + 5 = 14 \rightarrow$ write 4, carry 1
Tens: $0 + 7 + 1 = 8$
Hundreds: $4 + 3 = 7$
Thousands: 2
ANSWER $2,409 + 375 = 2,784$.

CASE D CLAIM: $4,125 + 1,999 = 5,124$
WHAT WENT WRONG? A thousand was lost during repeated regrouping.
CORRECT WORKING
Ones: $5 + 9 = 14 \rightarrow$ write 4, carry 1
Tens: $2 + 9 + 1 = 12 \rightarrow$ write 2, carry 1
Hundreds: $1 + 9 + 1 = 11 \rightarrow$ write 1, carry 1
Thousands: $4 + 1 + 1 = 6$
ANSWER $4,125 + 1,999 = 6,124$.

Worked Solutions • Lines

FOUNDATION RANK

CASE B
651 rounded to the nearest 100 is 600.
Find the error, explain it, then correct it.
WHAT WENT WRONG?

CORRECT WORKING / ANSWER

Worked Solutions • Fractions

DEVELOPING RANK

CASE B
 $\frac{2}{3}$ of 18 = 6
Find the error, explain it, then correct it.
WHAT WENT WRONG?

CORRECT WORKING / ANSWER

CASE D
 $\frac{7}{8}$ of 32 = 24
Find the error, explain it, then correct it.
WHAT WENT WRONG?

CORRECT WORKING / ANSWER

See the Error • Follow the Working • Learn the Fix