

FREE STANDALONE EDITION

Find the Math Mistake

Error Analysis for Grades 4–5

SEE THE WORK

Diagnose → Correct → Check

Each activity shows a fictional student's actual calculation, model or strategy—not only an incorrect answer.

WHAT LEARNERS DO

1. Mark the first place they question.
2. Explain the mathematical reason.
3. Show corrected work.
4. Verify with an inverse, estimate or model.

14 US Letter pages • Original low-ink activities • Print at 100% / Actual Size

Names and situations in every activity are fictional.

Workbook Directions

FOUNDATIONAL REVIEW / INTERVENTION • 3.NBT.A.2 prerequisite

How to use this workbook

Ask learners to inspect the displayed work before calculating. “What did the student understand?” is as important as “Where did the work change?” Accept any marked location that identifies the first mathematical break and is supported by a clear explanation.

THE THREE-PART ROUTINE

1

DIAGNOSE

Mark a questionable step and explain the mathematical reason.

2

CORRECT

Show complete work with place values, models or intermediate steps.

3

CHECK

Use an inverse operation, estimate, model or context-based reasonableness check.

GRADE PLACEMENT

Level 1 is explicitly labeled prerequisite review/intervention. Levels 2–3 emphasize Grade 4 core work and Grade 4–5 transfer. Difficulty refers to error-analysis demand as well as computation.

FOUNDATIONAL REVIEW / INTERVENTION • 3.NBT.A.2 prerequisite

Name _____ Date _____

Study the displayed work. Mark the first place you question and explain why. Correct the work, then use a check that fits the problem.

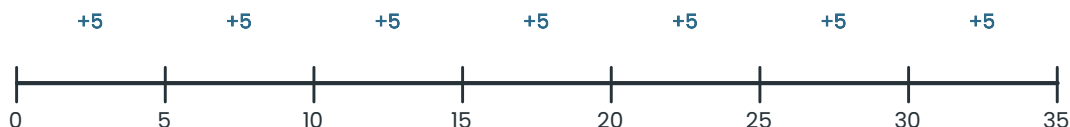
75

This image shows a single sheet of white paper with horizontal blue ruling lines. The paper has rounded corners on the left side and a vertical margin line on the right. There are seven visible horizontal lines spaced evenly down the page.

FOUNDATIONAL REVIEW / INTERVENTION • 3.OA.A.2 prerequisite

Name _____ Date _____

Study the displayed work. Mark the first place you question and explain why. Correct the work, then use a check that fits the problem.



8 numbers said → answer 8

1 **DIAGNOSE** — Which place do you question? Explain why.

2 CORRECT — Show complete mathematical work.

A full-page view of a blank sheet of graph paper. The grid consists of small squares formed by thin gray lines. There are 20 columns and 15 rows of squares. The top-left corner of the page has rounded corners.

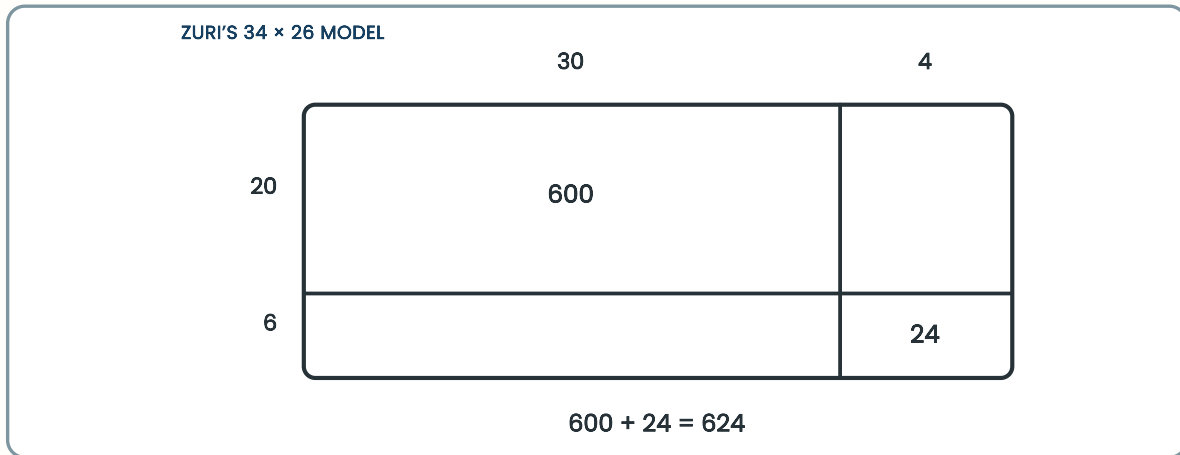
3 CHECK — Choose a useful check.

Name _____ Date _____

Name _____ Date _____

Name _____ Date _____

Study the displayed work. Mark the first place you question and explain why. Correct the work, then use a check that fits the problem.



1 **DIAGNOSE** — Which place do you question? Explain why.

2 CORRECT — Show complete mathematical work.

A full-page view of a blank sheet of graph paper. The page features a uniform grid of thin, light gray lines forming small squares across its entire surface. The background is white, and there are no margins, text, or other markings present.

3 CHECK – Choose a useful check.

A blank sheet of white paper with horizontal blue ruling lines, resembling notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins or other markings on the paper.

GRADE 4 CORE / GRADE 5 REVIEW • 4.NBT.B.6

Name _____ Date _____

Study the displayed work. Mark the first place you question and explain why. Correct the work, then use a check that fits the problem.

$$\begin{array}{r} 26 \\ 4 \overline{) 824} \\ \underline{- 8} \\ 24 \\ \underline{- 24} \\ 0 \end{array}$$

Ivy's answer: 26

A blank sheet of graph paper with a light gray background and a grid of thin gray lines forming small squares. The grid covers most of the page, leaving margins at the top, bottom, and sides.

[illegible]

Record the Regrouped Ten

FOUNDATIONAL REVIEW / INTERVENTION • 3.NBT.A.2 prerequisite

PRIYA'S WORK

$$7 + 8 = 15$$

write 5

$$4 + 3 = 7$$

$$\begin{array}{r} 47 \\ + 38 \\ \hline 75 \end{array}$$

CORRECT WORK

Regroup 1 ten

$$\begin{array}{r} 1 \\ 47 \\ + 38 \\ \hline 85 \end{array}$$

FIRST ERROR

She wrote the 5 ones but never regrouped the other 10 ones as 1 ten, so her tens column is missing 1 ten.

WORKED EXPLANATION

$7 + 8 = 15$ ones, which is 1 ten and 5 ones. Write 5 and regroup 1 ten. Tens: $4 + 3 + 1 = 8$ tens. So $47 + 38 = 85$, not 75. Check: $85 - 38 = 47$, the first addend; $75 - 38 = 37$, which doesn't match.

TEACHER MOVE

Intervention: Ask the learner to name the value of every regrouped digit and trace where it is used.

Count Jumps, Not Points

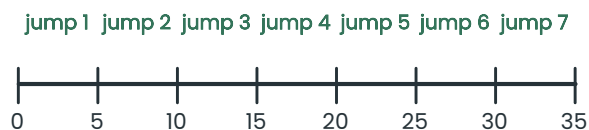
FOUNDATIONAL REVIEW / INTERVENTION • 3.OA.A.2 prerequisite

FICTIONAL STUDENT'S NUMBER LINE



8 numbers said → answer 8

CORRECTED NUMBER-LINE REASONING



$$7 \times 5 = 35$$

FIRST ERROR

He counted the starting point 0 as a group. The quotient is the number of jumps of 5, not the number of numbers he said aloud.

WORKED EXPLANATION

The jumps land on 5, 10, 15, 20, 25, 30, 35. That is 7 jumps of 5 starting from 0. So $35 \div 5 = 7$, not 8. Check: $7 \times 5 = 35$, while $8 \times 5 = 40$.

TEACHER MOVE

Intervention: Count intervals rather than tick marks and label the size of every jump.

Keep the Value of the Tens

FOUNDATIONAL REVIEW / INTERVENTION • 3.NBT.A.3 prerequisite

FICTIONAL STUDENT'S WORK

1. 6×40
2. $6 \times 4 = 24$
3. Answer: 24 seeds

CORRECTED WORK

1. 40 is 4 tens
2. $6 \times 4 \text{ tens} = 24 \text{ tens}$
3. 24 tens = 240 seeds

FIRST ERROR

She multiplied 6×4 but forgot that the 4 in 40 means 4 tens. Her 24 should be 24 tens, which is 240.

WORKED EXPLANATION

6×40 means 6 groups of 4 tens: $6 \times 4 \text{ tens} = 24 \text{ tens} = 240$. Reasonableness: the total must be more than one planter's 40 seeds, and 24 is less than 40. There are 240 seeds.

TEACHER MOVE

Intervention: Connect the operation, number of groups and amount in each group to the context.

Track Every Regrouping Trade

GRADE 4 CORE / GRADE 5 REVIEW • 4.NBT.B.4

FICTIONAL STUDENT'S WORK1. $503 \rightarrow 4 \text{ hundreds, } 10 \text{ tens, } 13 \text{ ones}$ 2. $13 - 8 = 5$; $10 - 6 = 4$; $4 - 2 = 2$ 3. $503 - 268 = 245$ **CORRECTED WORK**1. $503 \rightarrow 4 \text{ hundreds, } 9 \text{ tens, } 13 \text{ ones}$ 2. $13 - 8 = 5$; $9 - 6 = 3$; $4 - 2 = 2$ 3. $503 - 268 = 235$ **FIRST ERROR**

When he took 1 ten from the 10 tens to make 13 ones, the tens should have dropped to 9. He subtracted from 10 tens, using a ten he had already given away.

WORKED EXPLANATION

$503 = 4 \text{ hundreds, } 9 \text{ tens, } 13 \text{ ones}$. Ones: $13 - 8 = 5$. Tens: $9 - 6 = 3$. Hundreds: $4 - 2 = 2$. So $503 - 268 = 235$. Check: $245 + 268 = 513$, but $235 + 268 = 503$.

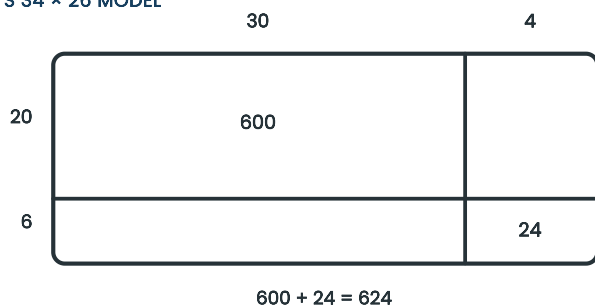
TEACHER MOVE

Name each digit's value before operating; require a place-value sentence in the explanation.

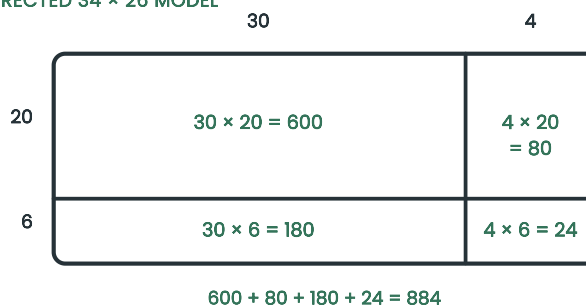
Account for Every Region

GRADE 4 CORE / GRADE 5 REVIEW • 4.NBT.B.5

ZURI'S 34×26 MODEL



CORRECTED 34×26 MODEL



FIRST ERROR

She skipped two partial products. An area model for 34×26 has four parts: 30×20 , 30×6 , 4×20 , and 4×6 . She used only two of them.

WORKED EXPLANATION

$30 \times 20 = 600$, $30 \times 6 = 180$, $4 \times 20 = 80$, $4 \times 6 = 24$. Total: $600 + 180 + 80 + 24 = 884$. So $34 \times 26 = 884$, not 624. Estimate: $30 \times 30 = 900$.

TEACHER MOVE

Have the learner connect every rectangle to one partial product before combining the four regions.

Record the Tens Place

GRADE 4 CORE / GRADE 5 REVIEW • 4.NBT.B.6

IVY'S WORK

$$\begin{array}{r}
 \\
 4 \overline{) 824} \\
 \underline{- 8} \\
 24 \\
 \underline{- 24} \\
 0
 \end{array}$$

Ivy's answer: 26

CORRECT WORK

$$\begin{array}{r}
 \\
 4 \overline{) 824} \\
 \underline{- 8} \\
 2 \\
 \underline{- 0} \\
 24 \\
 \underline{- 24} \\
 0
 \end{array}$$

FIRST ERROR

When 2 tens could not give each of 4 groups a whole ten, she needed to write 0 in the tens place of the quotient. Skipping it moved the 2 hundreds into the tens place.

WORKED EXPLANATION

8 hundreds $\div 4 = 2$ hundreds. 2 tens $\div 4 = 0$ tens with 2 tens left, so write 0. Regroup to make 24 ones; $24 \div 4 = 6$. Quotient: 206. Check: $206 \times 4 = 824$, but $26 \times 4 = 104$.

TEACHER MOVE

Read each quotient digit by place value and ask what a zero placeholder communicates.