

The 10 Most Common Error Patterns

Quick Teacher Reference Sheet

Refer to Part 4 Identifying and Using Error Patterns to Support the Learner

Error Patterns	Steve Chinn's Notes	Error Analysis
1. $\begin{array}{r} 46 \\ + 77 \\ \hline 141 \end{array}$	$6 + 7 = 13$ 'carry' 3 $4 + 7 + 3 = 14$	The student added $6 + 7$ correctly, but carried the 3 to the ten's column instead of the one.
2. $\begin{array}{r} 46 \\ + 77 \\ \hline 113 \end{array}$	$6 + 7 = 13$ 'forgot' the carry 1 $4 + 7 = 11$	The student added $6 + 7$ correctly and wrote the 3, but forgot to carry the 1 to the ten's column.
3. $\begin{array}{r} 82 \\ - 36 \\ \hline 54 \end{array}$	$6 - 2 = 4$ 'take the little from the big'	Instead of saying $2 - 6$ and borrowing from the tens column, the student took the little number from the big number $6 - 2 = 4$.
4. $\begin{array}{r} 408 \\ - 246 \\ \hline 242 \end{array}$	$0 - 4 = 4$ 'zero minus 4 is 4' Instead of borrowing	When working with zero, the student has made a calculation error, thinking that $0 - 4 = 4$. The student will need to borrow from the hundreds column.
5. $13.4 + 5 = 13.9$	$\begin{array}{r} 13.4 \\ + 5 \\ \hline 13.9 \end{array}$ 'align from right'	The student has written 5 instead of 5.0 creating the incorrect place value. The 5 must go in the one's column not the tenth's column.

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6. $13.4 + 5 = 22$	$13 + 4 + 5 = 22$	The student has seen the .4 as its own number and added it as a separate number.
7. $13.4 + 5 = 29$	$7 + 13 + 4 + 5 = 29$ Incorporated the question number	The student has assumed the question is part of the sum, indicating a teacher caused error.
8. $52 \div 2 = 21$	$5 \div 2 = 2$ and ignore the remainder	The student has made a remainder error because 2 goes into 5 twice remainder 1, but they have forgotten to carry the remainder calculating incorrectly that 2 goes into 2 once instead of 2 goes into 12 six times, so the answer should be 26.
9. $\frac{1}{20} + \frac{1}{20} = \frac{2}{40}$	the + has been applied to top and bottom numbers here Side Note: $\frac{1}{4} \times \frac{4}{5} = \frac{4}{20}$ Students will often apply rules for multiplying fractions when adding fractions. Remind students not to make this mistake!	The student has added the numerators (top numbers) and the denominators (bottom numbers). When adding fractions we only add the numerators.
10. $\begin{array}{r} 421 \\ \times 3 \\ \hline 273 \end{array}$	$3 \times 4 = 12$ write 2, $3 \times 2 = 6$ carry 1 add the carried 1 $6 + 1 = 7$ $3 \times 1 = 3$	The student has started from the 100's column instead of the one's column, doing the sum in reverse.