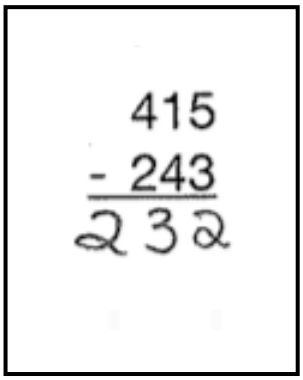
Subtraction Procedure

Extend Your Learning
Answers and Explanations

Four students in Mr. Miller's fourth grade class made errors on a subtraction assignment. The four incorrect problems are shown below. Find each student's error, explain why his or her work is incorrect, and show how to get the correct answer. You may want to use a model to help you. Use pennies, dimes, and dollars to represent ones, tens, and hundreds or print and cut out paper base ten blocks.

1. Find the error.



Explain the error:

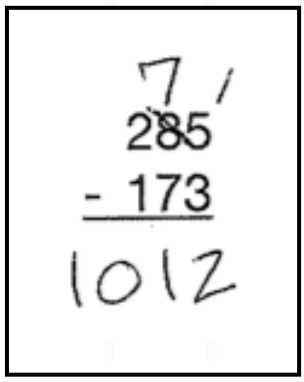
This student seems to look at each place value and subtract the smaller digit from the larger digit.

Correct answer:

The correct answer is 172. Subtract 3 from 5 to get 2. Then trade one hundred for 10 tens. This gives you 11 tens. 11 tens minus 4 tens is 7 tens. Finally, subtract 2 hundreds from 3 hundreds to get 1 hundred.

$$\begin{array}{r} {}^{3}\not{4}{}^{1}15 \\ -\ 243 \\ \hline 172 \end{array}$$

2. Find the error.



Explain the error:

This student seems to trade 1 ten for 10 ones, rather than just taking 5 minus 3. The problem then becomes 15 minus 3, which equals 12. The student records 12. Then the student subtracts the tens, but records the result in the hundreds place. Finally the student subtracts the hundreds, but records the result in the thousands place.

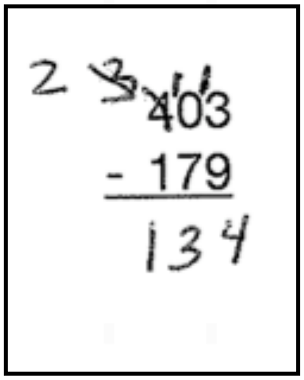
Correct answer:

The correct answer is 112. Subtract 3 from 5 to get 2. Then, 8 tens minus 7 tens equals 1 ten. Finally, 2 hundreds minus 1 hundred equals 1 hundred.

$$\begin{array}{r} 285 \\ -\ 173 \\ \hline 112 \end{array}$$

Subtraction Procedure
Extend Your Learning
Answers and Explanations

3. Find the error.



Explain the error:

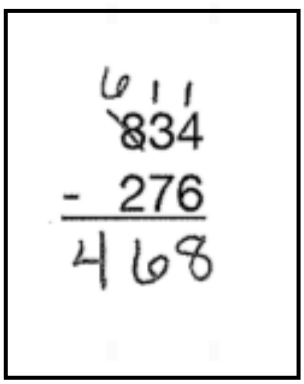
This student seems to trade 1 hundred for 10 ones, resulting in 13 ones. The student subtracts 9 from 13 to get 4. Then the student trades another 1 hundred for 10 tens. The student subtracts 10 tens minus 7 tens resulting in 3 tens, and finally subtracts 1 hundred from 2 hundreds to get 1 hundred.

Correct answer:

The correct answer is 224. One way to solve this problem is to think of 4 hundreds and 0 tens as 40 tens. (Since 1 hundred equals 10 tens, 4 hundreds equals 40 tens.) Trade 1 ten for 10 ones. The result is 39 tens and 13 ones. 13 minus 9 equals 4, 9 tens minus 7 tens equals 2 tens, and 3 hundreds minus 1 hundred equals 2 hundred.

```
 39 1
 403
-179
 224
```

4. Find the error.



Explain the error:

This student seems to trade 1 hundred for 10 ones resulting in 14 ones, and another 1 hundred for 10 tens, resulting in 13 tens. The student subtracts 6 from 14 to get 8, and 7 tens from 13 tens to get 6 tens. Finally, 6 hundreds minus 2 hundreds equals 4 hundreds.

Correct answer:

The correct answer is 558. Trade 1 ten for 10 ones, resulting in 14 ones. Now subtract 6 from 14 to get 8. Trade 1 hundred for 10 tens, resulting in 12 tens. Twelve tens minus 7 tens is 5 tens. Finally, 7 hundreds minus 2 hundreds equals 5 hundreds.

```
 7 1 2 1
 834
-276
 558
```