Reasoning and Problem Solving Subtract Two 4-Digit Numbers 1

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Developing

1a. Harry is incorrect. He has subtracted the tens column incorrectly. The answer should be 2,231.

2a. Possible answers:

$$4,799 - 1,212 = 3587; 4,797 - 1,212 = 3,585; 4,795 - 1,212 = 3,583; 4,793 - 1,212 = 3,581 3a.$$
 The thousands column is incorrect. 1,000 has not been subtracted from 4,000. The answer should be 3,571.

Expected

4a. Peter is incorrect. He has subtracted the thousands column incorrectly. The answer should be 2,622.

5a. Possible answers:

Greater Depth

7a. Henry is incorrect. He has subtracted the hundreds and ones columns incorrectly. The answer should be 1,035.

8a. Various answers, for example:

5,735 - 614 = 5,121; 5,777 - 654 = 5,123;

5,797 - 674 = 5,123; 5,979 - 654 = 5,325

9a. Various answers, for example:

921 is incorrect. It should be 4,021. This can be seen if the numbers are rounded to the nearest thousand. 8,000 - 4,000 = 4,000 so the remaining number should be close to 4,000.

Developing

1b. Zoe is incorrect. She has added the hundreds column instead of subtracting and has subtracted the tens column incorrectly. The answer should be 6,313. 2b. Possible answers:

7,8<u>8</u>5 – <u>2</u>,1<u>64</u> = 5,721; 7,8<u>6</u>5 – <u>2</u>,1<u>44</u> = 5,721; 7,8<u>4</u>5 – <u>2</u>,1<u>24</u> = 5,721; 7,8<u>2</u>5 – <u>2</u>,1<u>04</u> = 5,721 3b. The tens column is incorrect. It has been added instead of being subtracted. The answer should be 5,761.

Expected

4b. Rochelle is incorrect. She has forgotten to subtract the hundreds column. The answer should be 3,092.

5b. Possible answers:

6,978 - 1,037 = 5,941; 6,978 - 1,031 = 5,9476b. The thousands column is incorrect. It has been added instead of being subtracted. The answer should be 5,711.

Greater Depth

7b. Xin is incorrect. She has forgotten to subtract the tens column. The answer should be 4.501.

8b. Possible answers:

9,88 $\underline{2}$ – $\underline{4}$,08 $\underline{2}$ = $\underline{5}$,80 $\underline{0}$; 9,88 $\underline{2}$ – $\underline{5}$,08 $\underline{0}$ = $\underline{4}$,80 $\underline{2}$ 9b. Various answers, for example: 312 is incorrect. It should be 3,311. This can be seen if the numbers are rounded to the nearest hundred. 3,600 – 300 = 3,300 so the remaining number should be close to 3,300.