



1) a)  $2746 + 1537 = 4283$       b)  $2657 + 2657 = 5314$       c)  $6586 + 1724 = 8310$

	3	2	5	8
+	1	2	9	4
	4	5	5	2
		1	1	1

	4	3	4	9
+	2	9	2	6
	7	2	7	5
	1		1	

	5	6	6	7
+	2	3	8	1
	8	0	4	8
	1	1		

3)

	1	4	3	5
+	2	1	8	6
	3	6	2	1
		1	1	

<  $3012 + 1699 = 4711$

	4	3	8	5
+	3	8	4	2
	8	2	2	7
	1	1		

>  $5269 + 1992 = 7261$

	6	1	2	7
+	2	9	4	5
	9	0	7	2
	1		1	

>  $2967 + 3978 = 6945$

	3	5	7	4
+	1	5	9	6
	5	1	7	0
	1	1	1	

<  $3298 + 2389 = 5687$

1) Captain Squid Beard's calculation is correct. Captain Fisheye's column addition is incorrect: the digits have not been aligned in the correct columns. Captain Shark Bait's base ten calculation is not correct: there has been no regrouping of the 13 hundreds into 3 hundreds and 1 thousand or of the 11 ones into 1 ten and 1 one. The answer to the calculation is 9381 and should be written as:



	1	4	3	5
+	2	1	8	6
	9	3	8	1
	1		1	

2) Pirate Plankton is not correct: it is possible to need to regroup for each column of an addition calculation. For example,  $3789 + 9542$  would require regrouping in every column, including the thousands, to make a 5-digit answer.



1)

No Regrouping	One Lot of Regrouping	More Than One Lot of Regrouping
There are no calculations involving no regrouping as the hundreds column will always require some regrouping.	$6833 + 1310 = 8143$	$6823 + 1317 = 8140$
	$6833 + 1311 = 8144$	$6823 + 1318 = 8141$
	$6833 + 1312 = 8145$	$6823 + 1319 = 8142$
	$6833 + 1313 = 8146$	
	$6833 + 1314 = 8147$	
	$6833 + 1315 = 8148$	
	$6833 + 1316 = 8149$	

2) There are many possibilities. Here are some examples:

$5678 + 1432$ ,  $1678 + 5432$ ,  $5478 + 1632$ ,  $5638 + 1472$ ,  $5672 + 1438$ ,  $5438 + 1672$ ,  $5472 + 1638$ ,  $5768 + 1342$ ,  $5368 + 1742$ ,  $5748 + 1362$ ,  $5742 + 1368$