1) Use place value counters or the column method to calculate:

a) 5142 – 4085

b) 9756 – 5873

c) 8291 – 6534

d) 7352 – 4867

e) 5063 – 3258

2) Which symbol should go in each box: > or < or =?

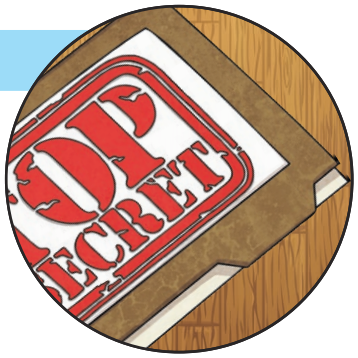
a) 2371 – 1938 = _____ ☐ 1287 – 1038 = _____

b) 5738 – 3474 = _____ ☐ 6246 – 3982 = _____

c) 6084 – 2969 = _____ ☐ 7114 – 3998 = _____

3) Agent OOR9 breaks 4573 secret codes each week.
744 are in German. 453 are in French. The rest are in English.

How many English codes are broken each week?



1) Agent 00R9 is trying to solve a case by cracking some codes. He has completed these calculations.

	8	2	3	4
-	4	5	8	9
	4	3	5	5

	5	6	8	1
-	3	7	2	5
	1	9	5	6

	6	8	2	4
-	6	2	5	8
		5	6	6

	7	2	3	6
-	5	4	5	7
	2	2	2	1

a) Check each calculation. Are they all correct? Where Agent 00R9 has made a mistake, write out the calculation correctly.

_____

_____

_____

b) Can you explain what mistake he has made?

_____

_____

_____

c) How would you explain to Agent 00R9 how to exchange when subtracting?

_____

_____

_____

_____

_____

Agent 00R9 says,

"You can only exchange once in a subtraction calculation."

Do you agree? Explain your answer.

_____

_____

_____

_____

1) Use the clues to help Agent 00R9 solve the calculation to find the combination to Dr Zed's safe.

55☐4 – 4562 = ☐

1. The missing digit in 55☐4 is an odd number.
2. The safe combination is a 4-digit number.
3. None of the digits in the combination are repeated.

2) Agent 00R9 has set you a mission. Your mission is to use the digits 1 to 9 to make two 4-digit numbers. You can only use each digit once. The answer to the calculation should be as close to 2000 as possible.

How close did you get? Compare your answer to others in your class. Did anyone get closer to 2000?

1)

a) 5142 – 4085 = **1057**

b) 9756 – 5873 = **3883**

c) 8291 – 6534 = **1757**

d) 7352 – 4867 = **2485**

e) 5063 - 3258 = **1805**

2)

a) 2371 – 1938 = **433** > 1287 – 1038 **= 249**

b) 5738 – 3474 = **2264** = 6246 – 3982 **= 2264**

c) 6084 – 2969 = **3115** < 7114 – 3998 **= 3116**

3) **744 + 453 = 1197**
4573 – 1197 = 1805

1)

a) *The first calculation is wrong; the correct answer is 3645. The second and third are correct. The final calculation is wrong; the answer should be 1779.*

b) *Where the digit in the top number (minuend) is smaller than the corresponding digit in the bottom number (subtrahend), he has just subtracted the smaller digit from the larger, instead of exchanging.*

c) *If the digit in the top number (minuend) is smaller than the corresponding digit in the bottom number (subtrahend), he needs to exchange from the column to the left. For example, if he had to calculate 2 ones subtract 4 ones, he would need to exchange a ten from the tens column on the left. Then, he would have 12 ones and could subtract 4 ones. He must remember, when he comes to subtract the tens, that he will have 1 less ten now and he may, in some cases, need to exchange from the hundreds column.*

d) *He is wrong. There may be subtraction calculations where only one exchange is necessary. However, depending on the size of the digits in each column, it may be necessary to have more than one exchange. It may even be necessary to have exchanges in three consecutive columns when subtracting a 4-digit number from a 4-digit number. For example, 5463 – 4585 would require three exchanges.*

1) *5514 – 4562 = 952 – 3-digit number*
5534 – 4562 = 972 – 3-digit number
5554 – 4562 = 992 – 3-digit number
5574 – 4562 = 1012 – 1 is repeated.
5594 – 4562 = 1032
The combination is 1032.

2) *Children use trial and error and place value knowledge to try to reach an answer close to 2000. A possible answer could be 6235 – 4198 = 2037.*