

(1) Fill in the missing entries.

IN <sub>1</sub>	IN <sub>2</sub>	OUT
2	3	7
4	1	5
7	4	29
6	8	49
3	100	301
9	0	1
0	8	1
2	7	
	7	50
		1
#	b	

(2) Translate the following Arabic numbers to happy numbers, and happy numbers to Arabic.

$$87 = \underline{\hspace{2cm}} \qquad 100 = \underline{\hspace{2cm}}$$

$$\Delta \square = \underline{\hspace{2cm}} \qquad \heartsuit \ominus \heartsuit = \underline{\hspace{2cm}}$$

(3) Do the following arithmetic problems. You don't need to show your work.

(a)  $\heartsuit \square + \zeta \Delta$

(b)  $\square \heartsuit - \zeta \Delta$

- (4) (a) Show me how to do the subtraction problem  $182 - 55$  with **two** of the three ways we discussed in class: (1) American standard borrowing, (2) European borrowing, (3) 'Make it nice.'

- (b) For one of your methods, explain **why** it gives a correct answer.

(5) Solve the following multiplication problems (any way you like). You don't need to explain your steps.

(a)  $42 \times 56$

(b)  $\Delta \star \times \square$