

1) a)

$$\begin{array}{r} 3 \ 1 \ 5 \\ + 6 \ 7 \ 2 \\ \hline \end{array}$$

0	0	0
9	8	7
9	8	7

b)

$$\begin{array}{r} 4 \ 8 \ 3 \\ + 8 \ 3 \ 2 \\ \hline 1 \ 3 \ 1 \ 5 \end{array}$$

c)

$$\begin{array}{r} 3 \ 5 \ 6 \\ 2 \ 8 \ 5 \\ + 2 \ 6 \ 1 \\ \hline 7 \ 1 \ 9 \ 2 \\ 9 \ 0 \ 2 \end{array}$$

You don't have to fill in the zeros

2) $30 + 69, 39 + 70, 39 + 71$

4) a) (3A, p 25-27) for the problems with chip models drawn

#2 rebundling ones

#6 rebundling ones, then rebundling tens

#3 rebundling tens

#8 rebundling ones, then tens, then hundreds

#4 rebundling hundreds

Here's a sample of CHIP MODELS from the other parts:

b) (3A, p 26) #5d

$$\begin{array}{r} & & 1 \\ & 3 & 2 & 6 & 0 \\ + & 4 & 2 & 8 & 2 \\ \hline & 7 & 5 & 4 & 2 \end{array}$$

thousands	hundreds	tens	ones
0 0 0	0 0	0 0 0 0 0 0	
0 0 0 0	0 0	0 0 0 0 0 0 0 0	0 0

7 5 4 2

c) (3A, p 26) #7b

$$\begin{array}{r} & & 1 & 1 \\ & 3 & 7 & 6 & 2 \\ + & 5 & 1 & 5 & 8 \\ \hline & 8 & 9 & 2 & 0 \end{array}$$

thousands	hundreds	tens	ones
0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0
0 0 0 0	0 ●	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0

8 9 2 0

#7f

$$\begin{array}{r} & & 1 & 1 \\ & 4 & 6 & 5 & 3 \\ + & 2 & 7 & 2 & 9 \\ \hline & 7 & 3 & 8 & 2 \end{array}$$

thousands	hundreds	tens	ones
0 0 0 0	0 0 0 0 0 0	0 0 0 0	0 0 0
0 0	0 0 0 0 0 0 0 0	0 0 ●	0 0 0 0 0 0 0 0

7 3 8 2

d) (3A, p 27) #9b

$$\begin{array}{r} 1 \ 1 \ 1 \\ 3 \ 5 \ 8 \ 7 \\ + 3 \ 8 \ 1 \ 3 \\ \hline 7 \ 4 \ 0 \ 0 \end{array}$$

thousands	hundreds	tens	ones
0 0 0	0 0 0 0 0	0 0 0 0	0 0 0
0 0 0	0 0 0 0 0 0 0	0 ●	0 0 0

7 4 0 0

See next page
for explaining
the steps by
drawing a
"box with arrows"



$$\begin{array}{r}
 & | \\
 3 & 5 & 8 & 7 \\
 + & 3 & 8 & 1 & 3 \\
 \hline
 & 0
 \end{array}$$

Add the ones

$$\begin{array}{r}
 & | & | \\
 3 & 5 & 8 & 7 \\
 + & 3 & 8 & 1 & 3 \\
 \hline
 & 0 & 0
 \end{array}$$

Add the tens

$$\begin{array}{r}
 & | & | & | \\
 3 & 5 & 8 & 7 \\
 + & 3 & 8 & 1 & 3 \\
 \hline
 & 4 & 0 & 0
 \end{array}$$

Add the hundreds

$$\begin{array}{r}
 & | & | & | \\
 3 & 5 & 8 & 7 \\
 + & 3 & 8 & 1 & 3 \\
 \hline
 & 7 & 4 & 0 & 0
 \end{array}$$

Add the thousands

- 5) SAM added the ones and added the tens, but he DID NOT rebundle 10 ones into 1 ten (he didn't "carry" at all - he omitted these 10 ones completely)

JULIE added the ones to get 14 ones, but she INTERCHANGED the roles of the digits 1 and 4 ; she "carried" 4 to the tens column and wrote 1 in the ones column when it should be reversed

FRANK added the ones and added the tens, but he wrote these sums WITHOUT THINKING OF PLACE VALUE. When he added the tens, he put 10 tens in the wrong place, so he never added 10 tens + 1 more ten (that he got from rebundling)