

of knowing and performing the two key manipulations of Stage 1, they can return to the single tactile sensation of pressing their fingers on a desk or table.

HAND DIAGRAM SYMBOLS

There will be numerous illustrations of the proper finger positions throughout this book.

If a finger is shaded *black with an arrow pointing down* (↓) that finger should be pressed (fig. 1). If a finger is shaded black, but it has no arrow it means that finger was already pressed from a prior manipulation (fig. 2). If a finger has been pressed and now should be cleared, the finger is blank with an arrow pointing up (↑), (fig. 3). If a finger has no shading and has no arrow, it means the finger is off the table (fig. 4).

Figure 1

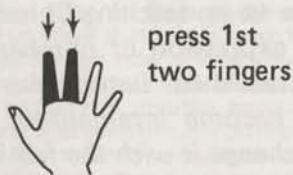


Figure 2

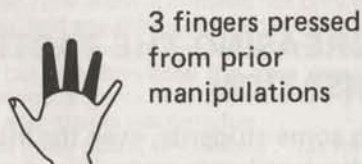


Figure 3

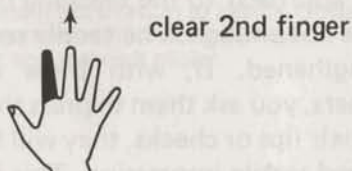
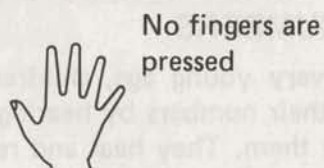
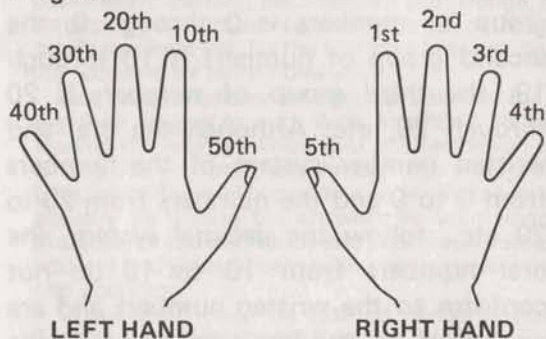


Figure 4



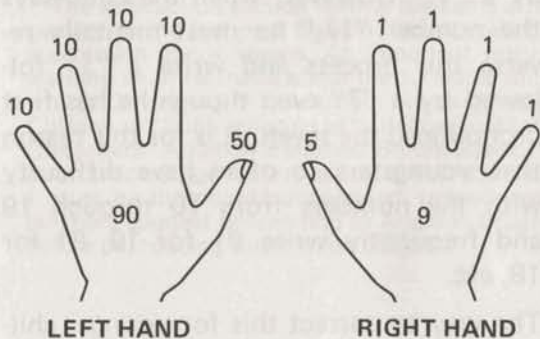
NAMES FOR THE FINGERS

Chisanbop[™] uses the hands to accumulate various numbers on the fingers. Each finger has a specific value and there is a ten - to - one ratio between the left and right hand. First, we must name the fingers.



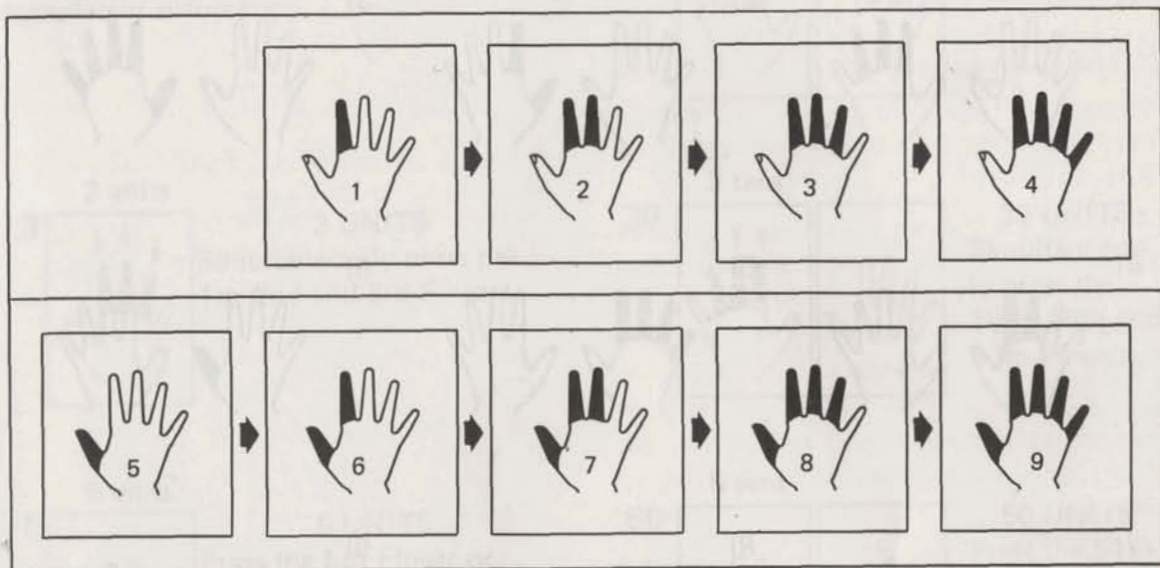
VALUES OF THE FINGERS

Each finger has a specific value as shown below.

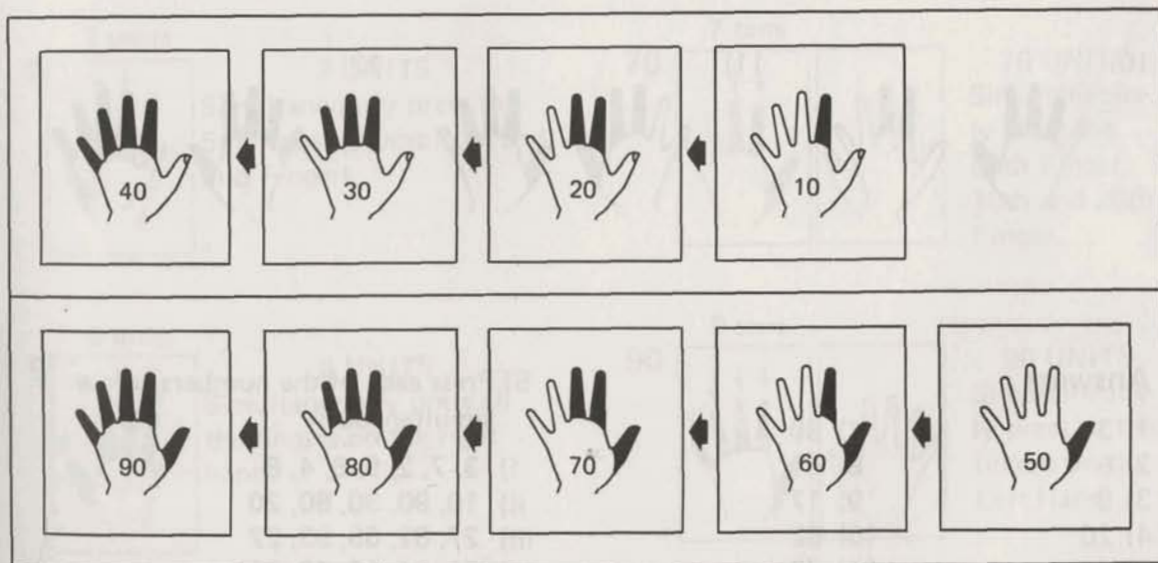


HOW TO REPRESENT NUMBERS

Right Hand



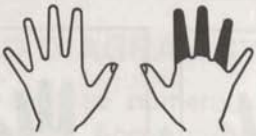
Left Hand



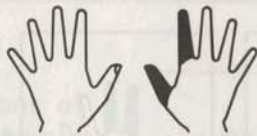
EXERCISES

A) Read the values on the hands shown below.

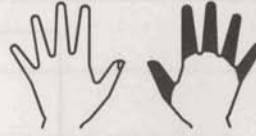
1)



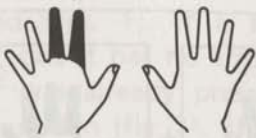
2)



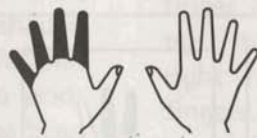
3)



4)



5)



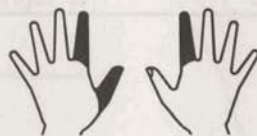
6)



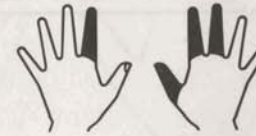
7)



8)



9)



10)



11)



12)



Answers

1) 3

7) 80

2) 6

8) 61

3) 9

9) 17

4) 20

10) 82

5) 40

11) 78

6) 50

12) 94

B) Press each of the numbers below simultaneously

i) 3, 7, 2, 9, 6, 4, 8

ii) 10, 90, 30, 80, 20

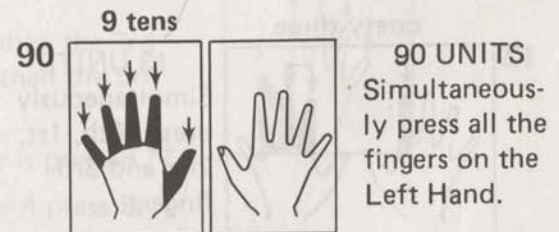
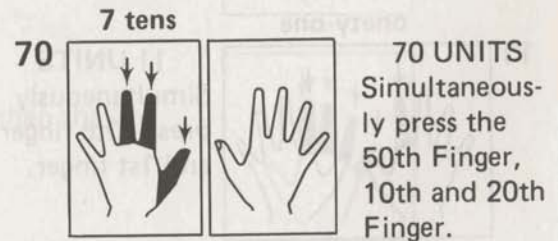
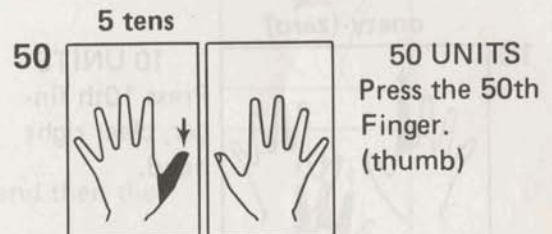
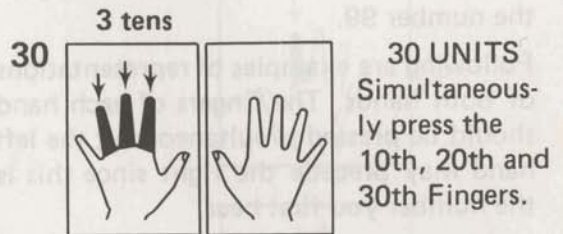
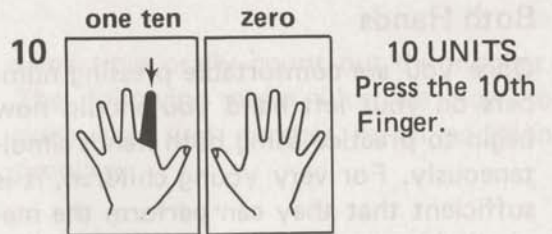
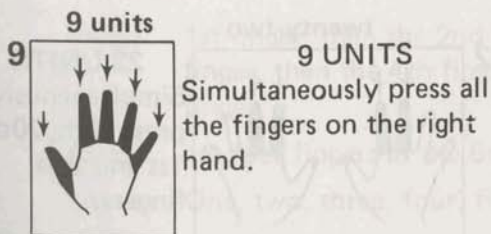
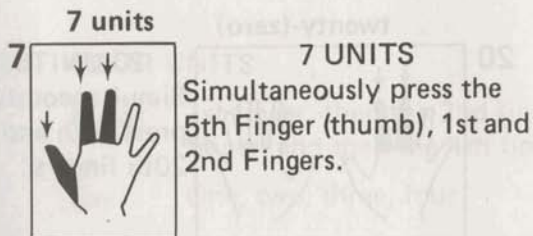
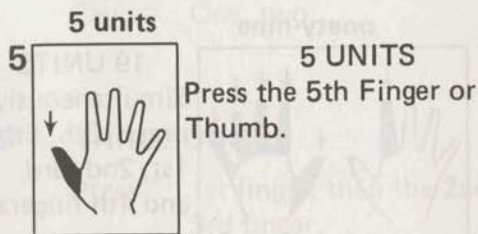
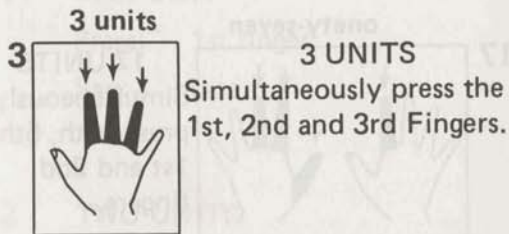
iii) 27, 82, 65, 93, 22

iv) 51, 94, 16, 48, 39

v) 13, 95, 68, 32, 83

SIMULTANEOUS PRESS

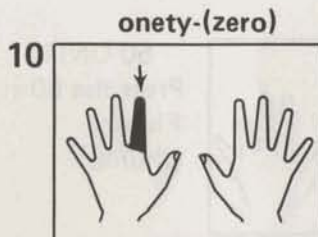
Manipulations such as the following should be practiced until they become completely automatic:



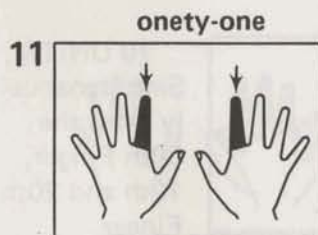
Both Hands

Once you are comfortable pressing numbers on your left hand you should now begin to practice using both hands simultaneously. For very young children, it is sufficient that they can perform the manipulations up to twenty. Older children and adults should practice exercises up to the number 99.

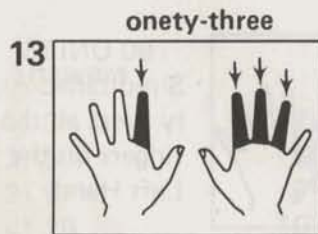
Following are examples of representations of both hands. The fingers of each hand should be pressed simultaneously; the left hand may precede the right since this is the number you first hear.



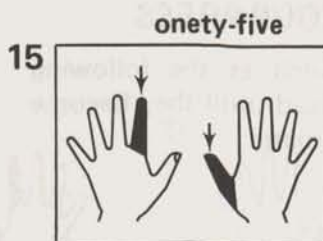
10 UNITS
Press 10th finger, clear right hand.



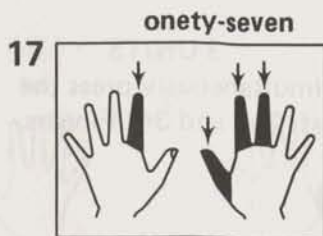
11 UNITS
Simultaneously press 10th finger and 1st finger.



13 UNITS
Simultaneously press 10th, 1st, 2nd and 3rd fingers.



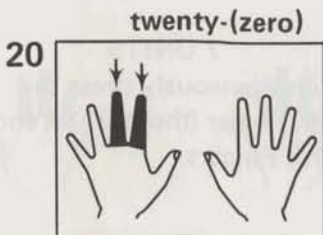
15 UNITS
Simultaneously press 10th and 5th fingers.



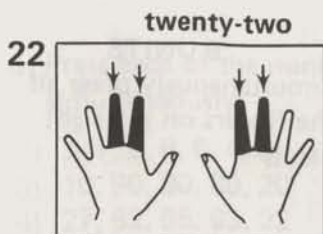
17 UNITS
Simultaneously press 10th, 5th, 1st and 2nd fingers.



19 UNITS
Simultaneously press 10th, 5th, 1st, 2nd, 3rd, and 4th fingers.



20 UNITS
Simultaneously press 10th and 20th fingers.



22 UNITS
Simultaneously press 10th, 20th; 1st and 2nd fingers.

ADDITION STAGE 1

After pressing numbers simultaneously, you are now ready to begin adding. The key to stage 1 addition is to press each number, one finger at a time, and at the

same time orally count out the number. The following pages illustrate how to press the first number in an addition problem.

PRESSING ONE BY ONE UP TO 9

1 ONE UNIT

Press: * 1st finger.

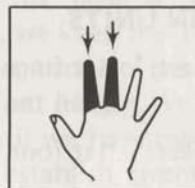
Say: One.



2 TWO UNITS

Press: * 1st finger and then the 2nd finger.

Say: One, two.



3 THREE UNITS

Press: * 1st finger, then the 2nd finger, and then the 3rd finger.

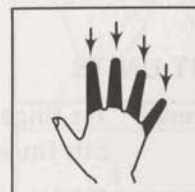
Say: One, two, three.



4 FOUR UNITS

Press: * 1st finger, then the 2nd finger, then the 3rd finger, and then the 4th finger.

Say: One, two, three, four.



5 FIVE UNITS

Press: * 1st finger, then the 2nd finger, then the 3rd finger, then the 4th finger, and then the 5th finger.

Clear: 1st four fingers as the 5th finger is pressed.**

Say: One, two, three, four, five (clear 4 press 5).



*Press fingers one by one.

**Flip Manipulation

6 SIX UNITS

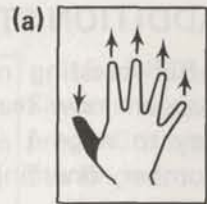
(a) Press: * 1st finger, then the 2nd finger, then the 3rd finger, then the 4th finger, then the 5th finger.

(a) Clear: 1st four fingers as the 5th finger is pressed. **

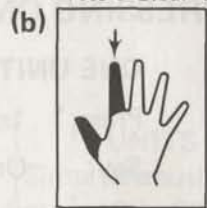
(b) Press: * Then the 1st finger again.

Say: (a) One, two, three, four, five (by pressing 5 and clearing 4). ***

(b) six.



Press 5 Clear 4



7 SEVEN UNITS

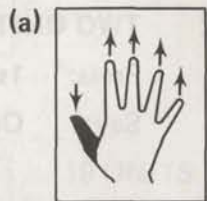
(a) Press: * 1st finger, then the 2nd finger, then the 3rd finger, then the 4th finger, then the 5th finger.

(a) Clear: 1st four fingers as the 5th finger is pressed. **

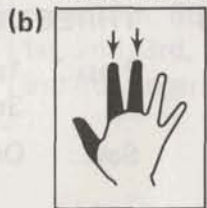
(b) Press: * Then the 1st finger again, and then the 2nd finger.

Say: (a) One, two, three, four, five (by pressing 5 and clearing 4). ***

(b) Six, seven.



Press 5 Clear 4



8 EIGHT UNITS

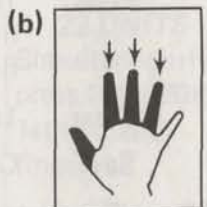
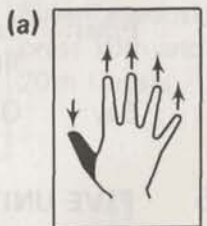
(a) Press: * 1st finger, 2nd finger, 3rd finger, 4th finger, 5th finger.

(a) Clear: 1st four fingers as the 5th finger is pressed. **

(b) Press: 1st finger, 2nd finger, 3rd finger.

Say: (a) One, two, three, four, five (by pressing 5 and clearing 4). ***

(b) Six, seven, eight.



* Press fingers one by one in order.

** Flip Manipulation

*** The verbal instruction "by pressing 5 and clearing 4" can be eliminated once the Flip Manipulation is mastered.

9 NINE UNITS

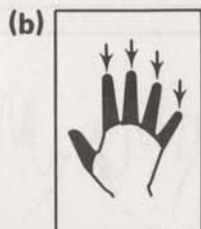
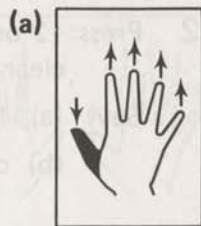
(a) Press: * 1st finger, 2nd finger, 3rd finger, 4th finger, 5th finger.

(a) Clear: 1st four fingers as the 5th finger is pressed.**

(b) Press: 1st finger, 2nd finger, 3rd finger, 4th finger.

Say: (a) One, two, three, four, five (by pressing 5 and clearing 4).***

(b) Six, seven, eight, nine.



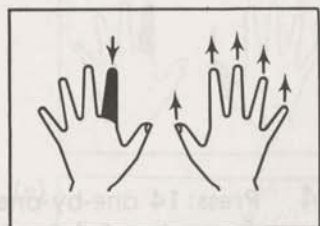
PRESSING ONE BY ONE UP TO 20

After we establish the numbers from one to nine, we then see how to reach the number "onety" (ten). When no fingers on the right hand are available for pressing (that is, all of the fingers on the right hand are pressed), we press our Tenth Finger (left index finger) and clear all the fingers on the right hand at the same time. We call this manipulation, the "Carry-over Manipulation"

or press 10, clear 9. To establish onety-one (11), we keep the Tenth Finger pressed, and go back to the units hand and press the First Finger. We continue in this manner until we have reached onety-nine (19). To establish twenty, clear all fingers on the right hand and at the same time press the Twentieth Finger while keeping the Tenth Finger pressed.

10 Press: 10 one-by-one using the manipulation of press 10, clear 9.*

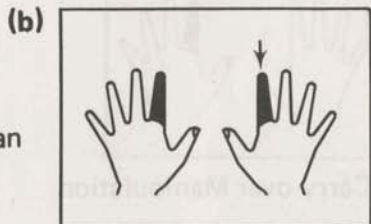
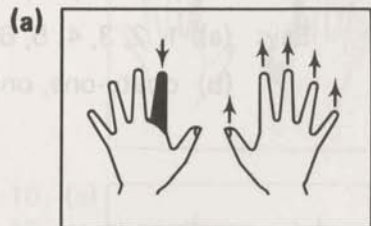
Say: 1, 2, 3, 4, 5, 6, 7, 8, 9, onety.



11 Press: 11 one-by-one using the manipulation of press 10, clear 9,* 11.

Say: (a) 1, 2, 3, 4, 5, 6, 7, 8, 9, onety.

(b) onety-one.



*Carry-over Manipulation

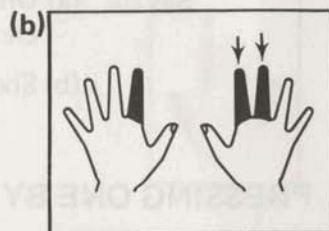
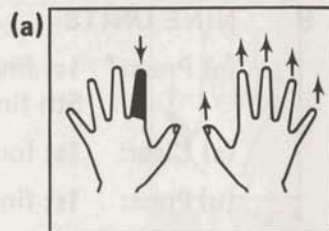
**Flip Manipulation

***The verbal instruction "by pressing 5 and clearing 4" can be eliminated once the Flip Manipulation is mastered.

12 Press: 12 one-by-one using the manipulation of press 10, clear 9,* 11, 12.

Say: (a) 1, 2, 3, 4, 5, 6, 7, 8, 9, onety.

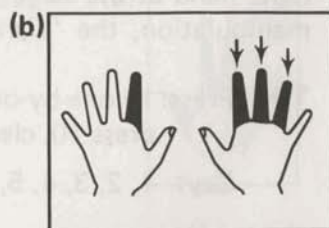
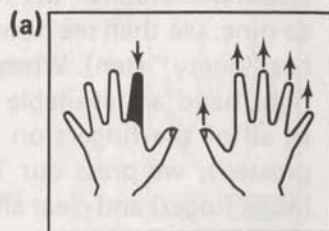
(b) onety-one, onety-two.



13 Press: 13 one-by-one using the manipulation of press 10, clear 9,* 11, 12, 13.

Say: (a) 1, 2, 3, 4, 5, 6, 7, 8, 9, onety.

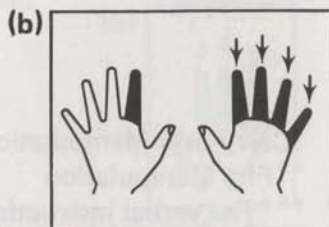
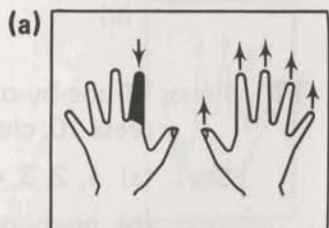
(b) onety-one, onety-two, onety-three.



14 Press: 14 one-by-one using the manipulation of press 10, clear 9,* 11, 12, 13, 14.

Say: (a) 1, 2, 3, 4, 5, 6, 7, 8, 9, onety.

(b) onety-one, onety-two, onety-three, onety-four.

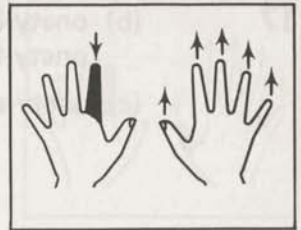


*Carry-over Manipulation

15 Press: 15 one-by-one using the manipulation of press 10, (a) clear 9,* 11, 12, 13, 14, (press 5 clear 4)** 15.

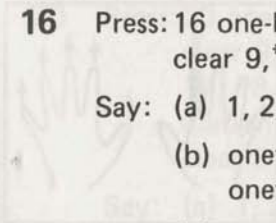
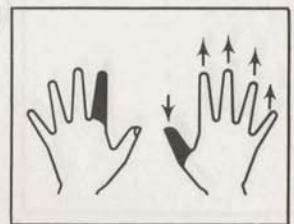
Say: (a) 1, 2, 3, 4, 5, 6, 7, 8, 9, onety.

(b) onety-one, onety-two, onety-three, onety-four, onety-five.



(a)

(b)



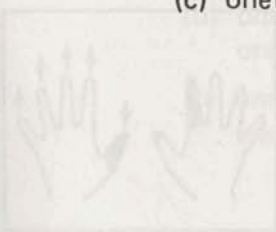
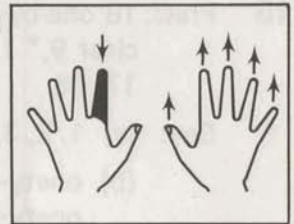
(b)

16 Press: 16 one-by-one using the manipulation of press 10, (a) clear 9,* 11, 12, 13, 14, (press 5 clear 4)** 15, 16.

Say: (a) 1, 2, 3, 4, 5, 6, 7, 8, 9, onety.

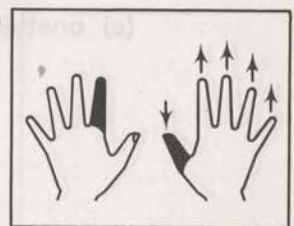
(b) onety-one, onety-two, onety-three, onety-four, onety-five.

(c) onety-six.



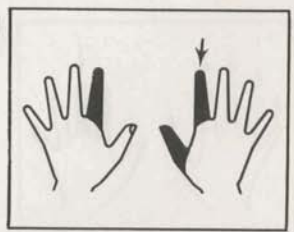
(a)

(b)



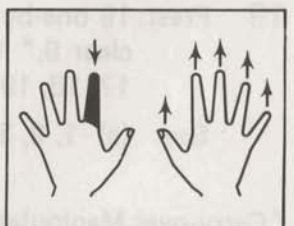
(b)

(c)



17 Press: 17 one-by-one using the manipulation of press 10, (a) clear 9,* 11, 12, 13, 14, (press 5 clear 4)** 15, 16, 17.

Say: (a) 1, 2, 3, 4, 5, 6, 7, 8, 9, onety.

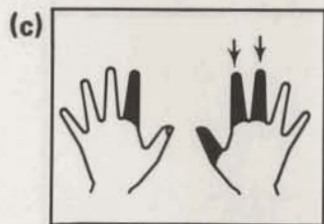
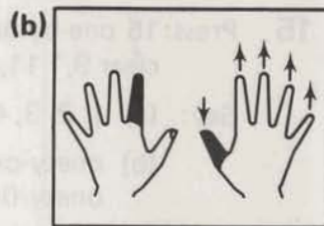
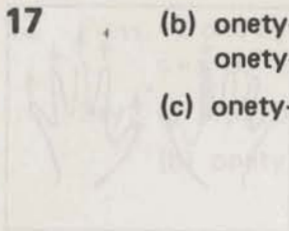


*Carry-over Manipulation

**Flip Manipulation

17 (b) onety-one, onety-two, onety-three, onety-four, onety-five.

(c) onety-six, onety-seven.

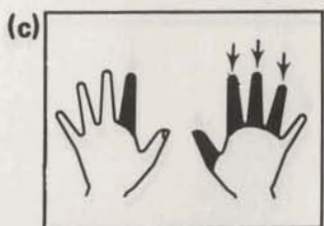
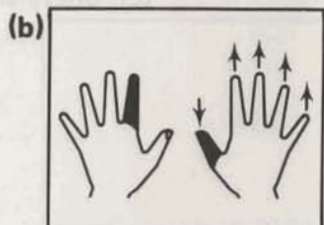
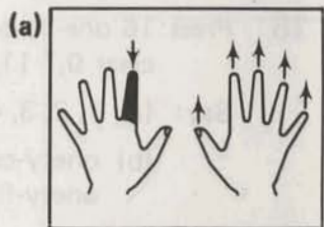
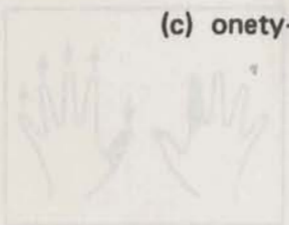


18 Press: 18 one-by-one using the manipulation of press 10, clear 9,* 11, 12, 13, 14, (press 5 clear 4)** 15, 16, 17, 18.

Say: (a) 1, 2, 3, 4, 5, 6, 7, 8, 9, onety.

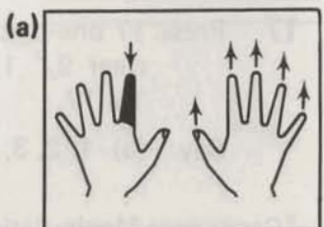
(b) onety-one, onety-two, onety-three, onety-four, onety-five.

(c) onety-six, onety-seven, onety-eight.



19 Press: 19 one-by-one using the manipulation of press 10, clear 9,* 11, 12, 13, 14 (press 5 clear 4)** 15, 16, 17, 18, 19.

Say: (a) 1, 2, 3, 4, 5, 6, 7, 8, 9, onety.



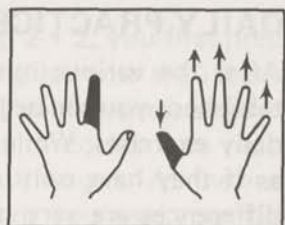
*Carry-over Manipulation

**Flip Manipulation

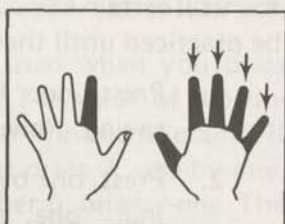
19

(b) onety-one, onety-two, onety-three, onety-four, onety-five.

(c) onety-six, onety-seven, onety-eight, onety-nine.



(c)



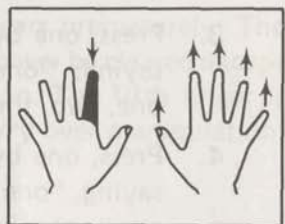
20 Press: 20 one-by-one using the manipulation of press 10, clear 9,* 11, 12, 13, 14, (press 5 clear 4)** 15, 16, 17, 18, 19, (press 10 clear 9)* 20. This last manipulation requires you to press the 20th finger and clear 9 while the 10th finger remains pressed.

Say: (a) 1, 2, 3, 4, 5, 6, 7, 8, 9, onety.

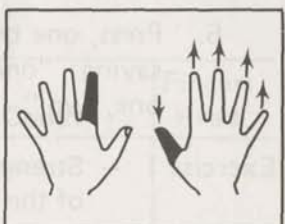
(b) onety-one, onety-two, onety-three, onety-four, onety-five.

(c) onety-six, onety-seven, onety-eight, onety-nine, twenty.

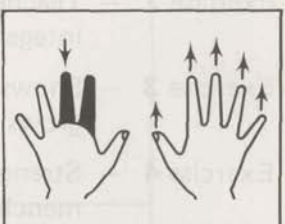
(a)



(b)



(c)



*Carry-over Manipulation
 **Flip Manipulation

DAILY PRACTICE EXERCISES

After the various numbers are firmly established, you can begin to practice certain daily exercises. While these exercises look as if they have only slight variations, the differences are very important and meant to instill certain key concepts. They should be practiced until they become routine.

1. Press, one by one, up to ten, saying; "one, two, three,...ten."
2. Press, one by one, up to ten, saying, "one, and one more, and one more...and one more."
3. Press, one by one, up to twenty, saying; "one, two, three,...ten, one, two, three,...ten."
4. Press, one by one, up to twenty, saying, "one, two, three,...onety, onety-one, onety-two,...twenty."
5. Press, one by one, up to twenty, saying; "one, two, one, two,... one, two."

Exercise 1 — Strengthens the ordinality of the numbers.

Exercise 2 — Teaches the concept of the integers system.

Exercise 3 — Shows how the left hand grows by ten.

Exercise 4 — Strengthens the onety nomenclature.

Exercise 5 — Prepares the student for multiplication.

TWO KEY MANIPULATIONS

There are only 2 key manipulations to learn in stage 1. Once they are learned, even young children can perform problems

that will amaze adults. It is therefore useful to point out what these manipulations are and to suggest frequent daily practice. The manipulations are $4 + 1$ (Press 5, Clear 4) and $9 + 1$ (Press 10, Clear 9). When you add 1 to 4, your fingers must press 5 and clear 4 simultaneously.

$$4 + 1 = 5$$



(Press 5, Clear 4)

When you add 1 to 9, your fingers must press 10 and clear 9 simultaneously.

$$9 + 1 = 10$$



(Press 10, Clear 9)

With each of these manipulations a single finger must be pressed and at the same time others cleared. Study these manipulations carefully and practice them daily.

These manipulations are crucial. They will be learned more quickly if teachers inflect their voices when they come to these maneuvers. Thus when adding 1 to 4 or 1 to 9, the voice should be raised as the manipulation is made. Moreover, with very young children it is extremely helpful to exaggerate the manipulations.

Thus when pressing 5 and clearing 4, wiggle all the cleared fingers in the air, and when pressing 10 and clearing 9, wave the entire hand in the air. Once these manipulations are understood, the exaggerated motions and tone inflections can be diminished.

ADDING 2 NUMBERS

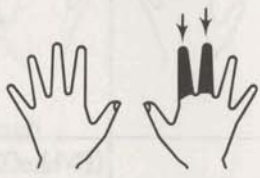
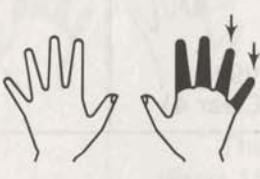
Adding numbers in ChisanbopTM is almost simplicity itself. All one does is press the first number, one by one, and then while keeping the first number pressed, press the second number, one by one. Once the second number is pressed, the sum is known by reading the fingers i.e., verbalizing the value registered on the fin-

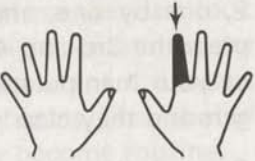
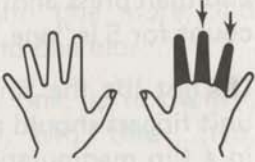
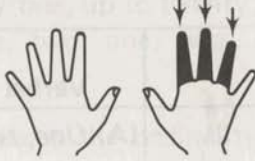

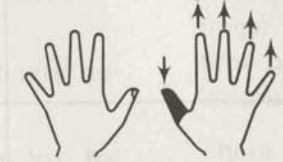
gers. Thus in adding $2 + 2$, you first press 2, one by one, leaving you with the 1st and 2nd fingers pressed. You then press another 2, one by one, and to do this you must press the 3rd and 4th fingers. At the end of your manipulations you read your fingers and they clearly show the answer is 4.

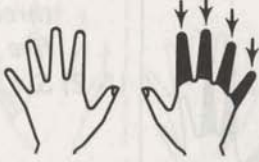
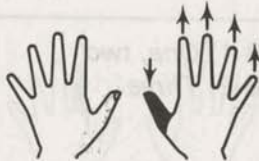
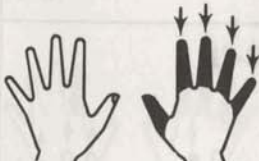
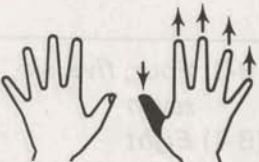
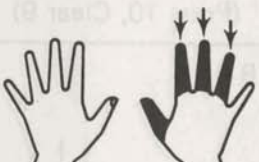
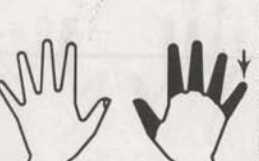
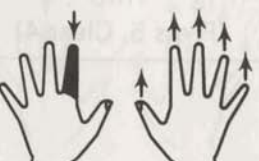
Caution should be used when you press the second addend. The value of the fingers is different from the verbal count. If you add $2 + 5$, you press 2, one-by-one, and then press another 5, one-by-one. The count for 5 is "one, two, three, four, five."

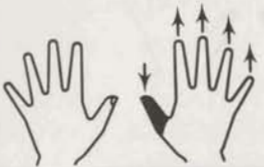
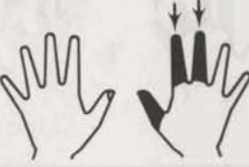
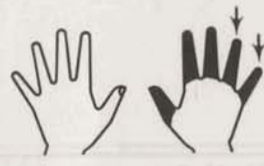
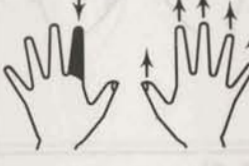
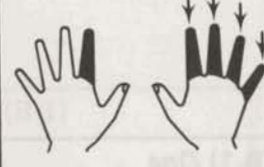
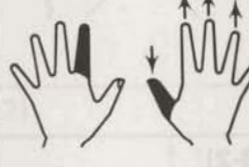
Do not lift the fingers prematurely. The unit fingers should never be cleared except in a flip manipulation. The fifth finger is only cleared in a carry-over manipulation.

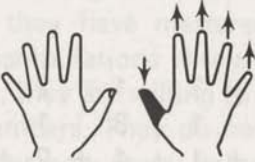
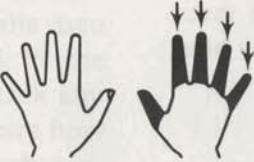
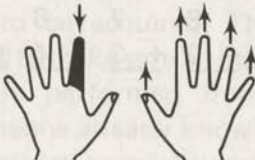
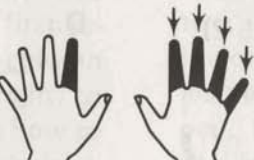
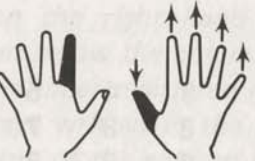
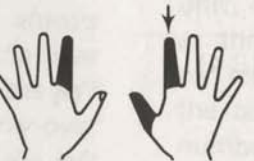
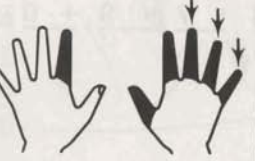
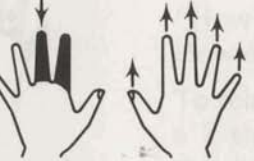
ADDITION STAGE 1

Problem	Finger Manipulations (Press One By One)	Verbal Count	Fingers Read
(A) 2	(A) 	(A) <i>One, two.</i>	
(B) <u>+ 2</u>	(B) 	(B) <i>One, two.</i>	(4)

Problem	Finger Manipulations (Press One By One)	Verbal Count	Fingers Read
(A) 1	(A) 	(A) <i>One</i>	
(B) <u>+2</u>	(B) 	(B) <i>One, two</i>	(3)
(A) 3	(A) 	(A) <i>One, two, three</i>	
(B) <u>+2</u>	(B-1)  (B-2)  Through (Press 5, Clear 4)	(B-1) <i>One</i> (B-2) <i>Two</i>	(5)

Problem	Finger Manipulations (Press One By One)		Verbal Count	Fingers Read
(A) 4	(A) 		(A) <i>One, two, three, four</i>	
(B) <u>+ 5</u>	(B-1)  Through (Press 5, Clear 4)	(B-2) 	(B-1) <i>One</i> (B-2) <i>Two, three, four, five</i>	(9)
(A) 8	(A-1)  Through (Press 5, Clear 4)	(A-2) 	(A-1) <i>One, two, three, four, five</i> (A-2) <i>Six, seven, eight</i>	
(B) <u>+ 2</u>	(B-1) 	(B-2)  Through (Press 10, Clear 9)	(B-1) <i>One</i> (B-2) <i>Two</i>	(10)

Problem	Finger Manipulations (Press One By One)		Verbal Count	Fingers Read
(A) 7	(A-1) 	(A-2) 	(A-1) <i>One, two, three, four, five</i> (A-2) <i>Six, seven</i>	
	Thru (Press 5, Clear 4)			
(B) <u>+ 8</u>	(B-1) 	(B-2) 	(B-1) <i>One, two</i> (B-2) <i>Three</i>	
	Thru (Press 10, Clear 9)			
	(B-3) 	(B-4) 	(B-3) <i>Four, five, six, seven</i> (B-4) <i>Eight</i>	(15)
Thru (Press 5, Clear 4)				

Problem	Finger Manipulations (Press One By One)		Verbal Count	Fingers Read
(A) 9	(A-1)  Thru (Press 5, Clear 4)	(A-2) 	(A-1) <i>One, two, three, four, five</i> (A-2) <i>Six, seven, eight, nine</i>	
(B) 7	(B-1)  Thru (Press 10, Clear 9)	(B-2) 	(B-1) <i>One</i> (B-2) <i>Two, three, four, five</i>	
	(B-3)  Thru (Press 5, Clear 4)	(B-4) 	(B-3) <i>Six</i> (B-4) <i>Seven</i>	
(C) <u>+ 4</u>	(C-1) 	(C-2)  Thru (Press 10, Clear 9)	(C-1) <i>One, two, three</i> (C-2) <i>Four</i>	(20)