

This same dropping action also occurs with  $-$ ,  $\times$ , and  $\div$ .<sup>\*</sup> The number in T is duplicated in T and Z, the number in Z drops to Y, and the numbers in Y and X combine to give the answer, which is visible in the X-register.

### Left to Right Execution

The automatic stack lift and automatic stack drop let you retain and position intermediate results without reentering the numbers. This is the great advantage the stack has over all other data handling methods. As a matter of fact, Hewlett-Packard calculators are the only pocket calculators with a specially designed system for evaluating algebraic expressions with maximum efficiency and overall ease of use. Many problems can be solved by keying in the numbers in left to right order. For example:

$$(35 + 45) \times (55 + 65)$$

Press	See Displayed	
35	35.	The left-most number is keyed into the X-register.
ENTER↵	35.00	No operations can be performed so press ENTER↵.
45	45.	The next number is keyed into X.
+	80.00	The intermediate result of the addition operation is displayed.
55	55.	The next number is keyed into X.
ENTER↵	55.00	The multiplication operation cannot be performed yet, so you press ENTER↵.
65	65.	The next number is keyed into X.
+	120.00	The addition operation is performed next.
$\times$	9600.00	The answer is calculated without repositioning the numbers.

<sup>\*</sup>The stack also drops during  $y^x$ ,  $f$  DMS+, and  $f^{-1}$  DMS+ operations, which are discussed later.

Of course, you don't have to work problems from left to right. Many people start in the middle and only key in numbers as they need them. Either way, the more complex the problem, the more you'll appreciate the capabilities of the operational stack. Try these additional examples.

**Sample Case:** Calculate  $5 \times [(3 \div 4) + (5 \div 2) + (4 \div 3)] \div (3 \times .213)$

Press	See Displayed	
3	3.	
ENTER↵	3.00	
4	4.	
$\div$	0.75	$(3 \div 4)$
5	5.	
ENTER↵	5.00	
2	2.	
$\div$	2.50	$(5 \div 2)$
+	3.25	$(3 \div 4) + (5 \div 2)$
4	4.	
ENTER↵	4.00	
3	3.	
$\div$	1.33	$(4 \div 3)$
+	4.58	$(3 \div 4) + (5 \div 2) + (4 \div 3)$
3	3.	
ENTER↵	3.00	
.213	.213	
$\times$	0.64	$(3 \times .213)$
$\div$	7.17	
5	5.	The first number is keyed in.
$\times$	35.86	The Answer.