



## MULTIPLICATION EXAMPLES

**Example:  $306 \times 4 = 1224$**

Choose rod H to be *the unit rod*. There is one number in the multiplier and three in the multiplicand for a total of four. Count off four rods to the left ending up at rod D. Set the multiplicand so that first number in the multiplicand falls on rod D. Now the unit number in the product will fall neatly on rod H.

**Step 1:** Set the multiplicand 306 on rods DEF and the multiplier 4 on A. (Fig.1)

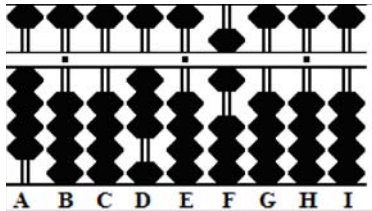


Fig.1

**Step 1**

A	B	C	D	E	F	G	H	I
4	0	0	3	0	6	0	0	0

**Step 2:** Multiply 6 on F by 4 on A and add the product 24 on rods GH immediately to the right of the multiplicand.

**2a:** Having finished with this part of the multiplicand (the 6 on F) clear it from the soroban leaving 3 on rod D and the partial product 24 on rods GH. (Fig.2)

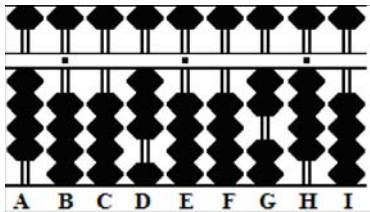


Fig.2

**Step 2**

A	B	C	D	E	F	G	H	I
4	0	0	3	0	6	0	0	0
					+ 2	4		
4	0	0	3	0	6	2	4	0
			clear		(-6)			
4	0	0	3	0	0	2	4	0

Step 2

Step 2a

**Step 3:** Multiply the 3 on D by the 4 on A and add the product 12 on rods EF immediately to the right of the multiplicand.

**3a and the answer:** Clear the 3 on D from the soroban leaving the answer 1224 on rods EFGH. (Fig.3)

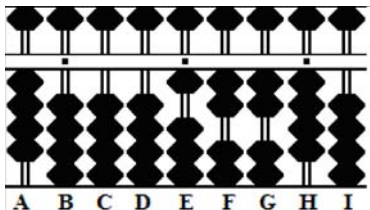


Fig.3

**Step 2**

A	B	C	D	E	F	G	H	I
4	0	0	3	0	0	2	4	0
				+ 1	2			
4	0	0	3	1	2	2	4	0
			(-3)					
4	0	0	0	1	2	2	4	0

Step 3

Step 3a

**Example:  $426 \times 0.35 = 149.1$**

Choose rod H to be the unit rod. There are no whole numbers in the multiplier but there are three in the multiplicand. Therefore count off 3 rods to the left ending up at rod E. Set the multiplicand so that first number in the multiplicand falls on rod E. Now the unit number in the product will fall neatly on rod H.

**Step 1:** Set the multiplicand 426 on rods EFG and the multiplier 35 on AB. (Fig.4)

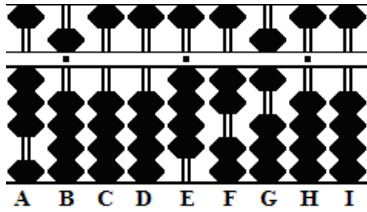


Fig.4

**Step 1**

A	B	C	D	E	F	G	H	I
.								
3	5	0	0	4	2	6	0	0

**Step 2:** Multiply 6 on G by 3 on A and add the product 18 on rods HI immediately to the right of the multiplicand.

**2a:** Next multiply 6 on G by 5 on B and add the 3 (of 30) to rod I.

**2b:** Having finished with the 6 on G clear it from the soroban leaving 42 on rods EF and the partial product 21 on rods HI. (Fig.5)

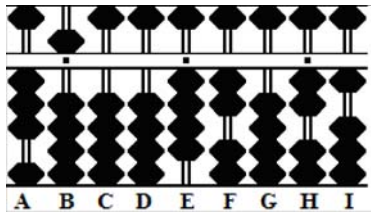


Fig5

**Step 2**

A	B	C	D	E	F	G	H	I
.								
3	5	0	0	4	2	6	0	0
						+	1	8
						3	5	0
						3	5	0
						clear	(-6)	
						3	5	0

Step 2

Step 2a

Step 2b

**Step 3:** Multiply 2 on F by 3 on A and add the product 06 on rods GH immediately to the right of the multiplicand.

**3a:** Next multiply 2 on F by 5 on B and add the product 10 to rods HI.

**3b:** Having finished with the 2 on F clear it from the soroban. This leaves 4 on rod E and the partial product 91 on rods HI. (Fig.6)

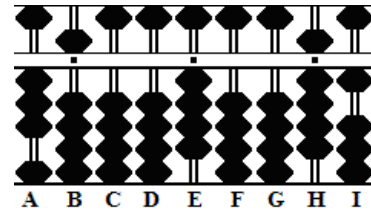


Fig6

**Step 3**

A	B	C	D	E	F	G	H	I
.								
3	5	0	0	4	2	0	2	1
						+	0	6
						3	5	0
						+	1	0
						3	5	0
						clear	(-2)	
						3	5	0

Step 3

Step 3a

Step 3b

**Step 4:** Multiply 4 on E by 3 on A and add the product 12 on rods FG immediately to the right of the multiplicand.

**4a:** Next multiply 4 on E by 5 on B and add the product 20 to rods GH.

**4b and the answer:** Having finished with the 4 on E clear it from the soroban. This leaves 1491 on rods FGHI. Because we designated rod H as the unit, the answer reads 149.1 (Fig.7)

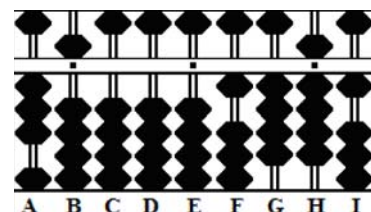


Fig7

**Step 2**

A	B	C	D	E	F	G	H	I
.								
3	5	0	0	4	0	0	9	1
						+	1	2
						3	5	0
						+	2	0
						3	5	0
						clear	(-4)	
						3	5	0

Step 4

Step 4a

Step 4b