An Old Algorithm for Multiplying

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In the fourth grade, children are introduced to the multiplication algorithm for use with double digit factors. While having the students perfect this patterning, I like to present another form of multiplication frequently termed Maygar, Hungarian, Peasant, Russian, or Egyptian multiplication.

This patterning requires that students be able to half factors, double factors, recognize odd and even numbers and add competently. After working through this algorithm, many children express gratitude for the algorithm currently in use.

To make this math adventure more enjoyable, I permit children to use calculators and have developed several Logo programs to help them verify their work.

Now for an explanation of this older algorithm. Let's multiply the factors 25 X 48:

Half this factor	Double this factor
*25	(48)
12	96
6	192
*3	(384)
*1	(768)
	1200

Doubling a factor only requires multiplying by 2, halving a factor requires that one round down to the lower whole number. For example, half of 25 is 12, not 12.5 or 12 1/2. One must keep track of the odd numbers which occur in halving as one must add togther all of the doubled pairs. I indicate the odd numbers by an asterik, and I circle the double pairs which must be aded to produce a product, although it is by addition.

Page 13 contains the Logo procedures for Hungarian Multiplicafion which halves the first factor and doubles the second. The second program, Egypt, permits the user to indicate which factor is to be halved or doubled.   ✡

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Economic conditions are accelerating a renewed national emphasis on math and science education. Last night I saw an NCTM produced TV commercial featuring an actor from the Cosby Show, an architect, and Wynton Marsalis stressing the importance of math education. The only problem was that the commercial aired at 3:00 AM - a time when only hackers would be watching - and they probably enjoyed math class anyway.

I believe that all aspects of school will progress and become more vital if the math education community is able to truly embrace and live the spirit of the *NCTM Standards*. Math education reform is an enormous challenge for all of us.

Logo is alive and well in schools all over the world. There are new versions of Logo from LCSI and Terrapin and LCSI recently won three *Technology and Learning* software awards. The LogoForum on Compuserve had it's most active year ever in 1991 and new books about Logo and constructionism are available (see page 9.) LogoWriter is available in many languages and Dr. Papert's long-awaited follow-up to *Mindstorms* is due in 1992.

I recently spent three months in Australia working with their vibrant Logo community and teaching at a school well on it's way to having one laptop per child. The 1,100 laptop-toting students at MLC use LogoWriter in every aspect of their education and personal relationship with the computer. I also recently attended the fabulous International Logo Conference in Costa Rica. 500 educators from a dozen Latin American countries attended. Their accomplishments and commitment to learner-centered education is nothing short of heroic. In the next *CLIME News*, I will share details of my international experiences and my emerging views on the complex role of staff development in the creation of dynamic schools for our times.