THE "ADVERGI" SLIDE RULE

ACCURATE, PRECISION ETCHED MANNHEIM SCALES

BODY: K-A & D-L
SLIDE: B-C1-C

K—USE WITH C & D SCALES FOR CUBES & CUBE ROOTS

A—USE WITH C & D SCALES FOR SQUARES & SQUARE ROOTS

B—SAME AS A

C1—RECIPROCAL OF C SCALE. USE WITH C & D SCALES.

C—SAME AS D. USE WITH D SCALE FOR MULTIPLICATION & DIVISION

D—USE WITH C & D SCALES FOR MULTIPLICATION & DIVISION

L—USE WITH C & D SCALES FOR LOGARITHMS

TO READ SLIDE RULE NUMBERS

Always think of all calibrations in units of tens. A slide rule can be read accurately to 3 numbers. Decimal point location is determined after reading final figure by logic. In other words, 26 times 15 is 390. (If you reason 20 x 20 being 400, then decimal point must be 390.00, could not be 39.00 or 3900.00).

To read a number to 3 places, always read the printed number nearest at left as 1st digit, the 2nd number will be the largest line nearest at left, & 3rd number estimated by space between lines. For example: Using D scale, take 247. First digit 2 is self evident, 4 is the 4th long line to right of the etched 2 (5 is the longest line in center between the etched numbers 2 & 3). Now, carefully set hairline on slide beyond the short line which is midway between the line we have determined is 4 and long line which is 5. Midway between the 2 lines would be 2475. Since our number is 247, hairline should be just a bit to left of this estimated point.

Try 968, a bit more difficult to judge. Set hairline to just beyond the first short line after the long line in center between 9 & 1 at right, which would be 950. This gives us 96 and we have to estimate location of hairline for the 8. If number was 965, this would place hairline midway between 2 short lines of 96 and 97. So, 978 is a bit to right of estimated center between the 2 short lines.

TO USE SLIDE RULE

Squares — Set hairline of cursor on number to be squared on D scale. Read the square on A scale on hairline.

Square Roots — Reverse procedure for squares, except if number has odd number of digits, use left side of A scale. For even number of digits, use right side of A scale to read square root on D scale.

Cubes — Set cursor on D scale. Read the cube on K scale.

Cube Roots — Reverse procedure for Cubes. If original number has 1, 4, 7, 9 digits, use left third of K scale. If original number has 2, 5, 8, 11 digits, use middle third of K scale. If original number has 3, 6, 9, 12 digits, use right third of K scale. Read cube root on D scale.

Multiplication — Set the numeral 1 of C scale on one of numbers which you locate on D scale. Slide cursor so hairline is over 2nd number on C scale. Read the multiplication of the 2 numbers under hairline on D scale. (Caution: Sometimes number to set on C scale runs off at right. Just push slide so the numeral 1 at right is over number on D scale and follow same procedure as above). Example: Multiply 341 x 777. Set numeral 1 of right side of C scale over 341 on D scale. Move cursor to 777 on C scale. On D scale, read 264. To determine decimal point, we know 300 x 800 is 240,000.00. Therefore, our final number to 3 decimal places of accuracy is 264,000.00. This problem could also be set by setting the numeral 1 of C slide over 777 on D scale; moving cursor to 341 on C scale and reading result on D scale.

Division — Reverse multiplication procedure. Set number to be divided by moving cursor hairline to scale D location. Set number dividing in to above number on C scale under hairline. Read answer on D scale at the numeral 1 on C scale. Example: Divide 6424 by 162. Set hairline of cursor on 6424 of D scale. Set 162 on C scale under hairline. Read 396 on D scale below the numeral 1 on C scale. (For decimal location, we can divide 6000 by 200 giving us 30.00). So our answer is 39.60, accurate to 1st 3 digits.

Reciprocals — Set cursor hairline on original number on C1 scale & read reciprocal on D scale. Also can reverse procedure.

Proportions — (Useful for conversions). Suppose you want to know how many feet in 23 yards. (We know 3 feet equal 1 yard). Set the numeral 1 of C scale over 3 on D scale. Move cursor hairline on C scale to 23. Read 69 on D scale under hairline as answer. By reversing procedure, feet can be converted to yards.

Specal Multiplication method to avoid reversing slide. Useful for multiplying more than 2 numbers together. Example: Multiply 28.3 x 17 x 25.6. Set hairline of cursor over 28.3 D scale. Move 17 of C1 scale under hairline. Now move cursor to 25.6 of C1 scale. Read 123 on D scale. To determine decimal point; 25 x 20 x 25 = 625 x 20 = 13,500.00. Our answer is 123,-000.00 accurate to 1st 3 digits.

Division of a series of numbers can also use the D, C1, scales. Move cursor over number to be divided on D scale. Move slide until the numeral 1 at right or left is under hairline. Move cursor over number on C1 which you are dividing into number on D scale. Read answer under hairline on D scale.

Logarithms — Line up numeral 1 of C scale exactly over 1 of D scale. Set cursor hairline over number on D scale & read logarithm under hairline on C scale. If logarithm is known, to locate number, reverse procedure above.