

# Dividing with the slide rule

To divide with a slide rule, you reverse the process you used for multiplication.

**Suppose you want to divide 8 by 4.**

1. Line up the 4 on the C (sliding) scale with the 8 on the D (frame) scale. Divisor should always be on the C scale.

2. Read the number on the D scale which is just below the 1 on the C scale. It should be 2.

(You can look at the picture which shows  $2 \times 4 = 8$ --the slide rule is in exactly the same position.

Suppose you want to divide 24 by 8.

1. Line up the 8 on the C scale with the 24 on the D scale.

2. Read the number on the D scale which is just below the 1 on the D scale. It should be 3. (See the picture for  $3 \times 8$  in "Multiplying...")

**Suppose you want to divide 8.70 by 4.65.**

1. Line up the 4.65 on the C scale with the 8.7 on the D scale.

2. Read 1.87 on the D scale underneath the 1 on the C scale.

You know that it is 1.87 and not 18.7 or .187 or something else because you estimate that  $9 \div 5$  is somewhere near 1 or 2.

(See the picture for  $1.87 \times 4.65$  in "Multiplying...")

**Suppose you want to divide 87,000 by 46.5.**

1. Rewrite the numbers in scientific notation.

$87,000 = 8.70 \times 10^4$ .  $46.5 = 4.65 \times 10$ .

2. Divide the powers of 10.  $10^4 \div 10 = 10^3$ .

3. Divide 8.70 by 4.65 as above to get 1.87.

4. Your answer is  $1.87 \times 10^3$  or 1,870,

# **Other operations**

The other scales on the slide rule are used for other operations.

## **The K scale: cubes and cube roots.**

To cube a number place the hairline on the number on the D scale.  
Read the number at the hairline on the K scale.

To find a cube root place the hairline on the number on the K scale.  
Read the number at the hairline on the D scale.

## **The A and B scales: squares and square roots.**

To square a number place the hairline on the number on the D (or C) scale.  
Read the number at the hairline on the A (or B) scale.

To find a square root place the hairline on the number on the A (or B) scale.  
Read the number at the hairline on the D (or C) scale.