

## Stupid Interpreter Tricks Liters, kilometers, the Golden Mean, and the Golden Rule

by J. Henry Phillips ©2002

### Liters and Quarts

To people from metric-speaking countries, a liter is simply the volume of a cube having 10-cm edges. People brought up on feet, inches, gallons and quarts have their vision of reality obfuscated by differences between U.S. and imperial gallons, and Americans actually find it simpler to define a quart as 95% of a liter and let it go at that. On tables provided by the Bureau of Standards they may find a liter listed as 10% larger than a quart, yet not trouble themselves over how the difference can amount to 5% in one direction and 10% in the other when discussing the two volumes. The discrepancy is due to the difference between dry quarts and liquid quarts, and it disappears when you stick to one or the other.

Those young enough to read the lettering on a Coke bottle notice that there are 33.8 fluid ounces in a liter and know from grade school that there are 32 such ounces to a liquid quart. In every case the 5% difference

will fit in a shotglass, and even technical-minded audiences accustomed to straining at gnats will forgive the nimble interpreter for multiplying and dividing by 4 when converting between liters and gallons.

### Kilometers and Miles

All of that changes when the discussion involves distances measured in miles and kilometers. Knowing that a mile is equal to 1.60934 kilometers or that a kilometer is equal to 0.62137 miles is

small consolation when interpreting 200 words per minute. Fifteen seconds wasted in the calculation can easily put the interpreter two sentences in arrears, and the speaker is there to inform the audience—not to slow down and accommodate the linguist. To find a handy way to remember the ratio and calculate the proportions, it is sometimes productive to contemplate one's navel.

The Ancients believed that the distance from your bellybutton to the floor stood in rational proportion to its distance from the top of your head. This fascinated designers like da Vinci and Le Corbusier and mathematicians from Fibonacci to Roger Penrose. Even the letter “A” in AATIA’s logo is designed using the Golden Mean. To find it, ask yourself how to divide a given unit of length into two parts such that the ratio of the shorter part to the longer equals the ratio of the longer part to the whole. Translated into high school algebra this is  $(1-x)/x = x/1$ , which, when run through the quadratic formula we memorized way back then, gives us  $(\text{radical } 5 \pm 1)/2$ . When you add 1 to the square root of 5 before halving the total you get approximately 1.618034... or phi, and when you instead subtract the 1, halving the quantity yields 0.618034... (the decimal part

actually goes on forever, but here we have neither the time or space).

If you test this curious number phi with a calculator, you see that dividing one by it is the same as subtracting 1 from it; adding it to its square is the same as cubing it, and so on. If you type “Golden Mean” into a search engine you’ll find 20,000 web sites with color graphics and diagrams of rectangles, spirals, triangles, tiling patterns and scroll lathing—plus numerous calculator tricks—all based on the magically mysterious number phi.

### Stranger than phiction

The part that interests us however is sheer coincidence. It just so happens that the ratio of miles to kilometers is very close to phi—so close, that if we use phi in its stead, we are off by only one part in a thousand. The interpreter can therefore define a mile as phi kilometers, round that to 1.62, better yet, 1.6, and round its reciprocal to 0.6. This reduces the problem of converting between miles and kilometers to a simple question of multiplying and dividing by 6, or adding and subtracting 60%. We can invert the fractional ratio by adding or subtracting 1. Immediately we see that 1000 miles is about 1620 kilometers, and 1000 kilometers roughly 620 miles. An oil well 17 miles offshore (multiply by 1.6) is just over 27 kilometers out by boat, and a coal mine 67 kilometers from town (multiply by 0.6) means a 40-mile ride back to the hotel.

### The Golden Rule

It is easy to make mistakes juggling simultaneous interpreting with mental arithmetic, but fortunately there are ways to cheat. If you are old enough to know how to read a slide rule, you can place the 1 on the slider over the 1.62 on the bottom rule. This will enable you to convert from miles to kilometers when English is coming into your headphones. Pushing the slide the other way, sliding the 1 over the 62 on the bottom rule helps when converting from kilometers to miles when you are speaking English into the microphone. For younger inter-

preters, Golden Rule teamwork is a good solution. If you make friends with your colleague in the booth, one can do the multiplication (using a calculator with 0.62 or 1.62 stored in memory and multiplication key already pressed) and—while the other is interpreting—display the converted figures on the calculator. Both of you will have speaker and audience alike gasping in astonishment at this incredible combination of arithmetical legerdemain and linguistic concentration—Quite Easily Done.

### Summary and Review

The difference between liquid quarts and liters is a mere 5%, small enough that—for interpreting purposes—it can be ignored.

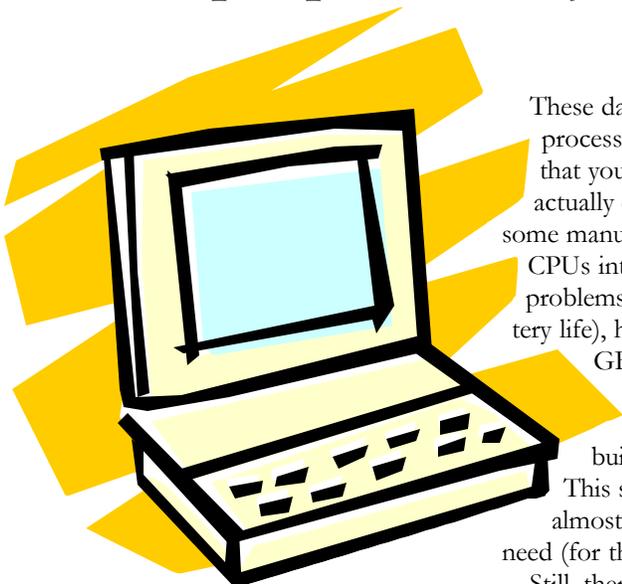
The ratio of miles to kilometers is so close to the Golden Mean that the interpreter can treat it as such and take advantage of corresponding arithmetical peculiarities.

Going back over what we've covered in previous columns, remember that one square meter is approximately 11 square feet—which reduces conversions between these units of area to a matter of moving the decimal one place to the right or left and adding or subtracting a corresponding 10% difference.

In discussions of heat, cold and temperature, for every nine-degree change in the Fahrenheit temperature scale the corresponding difference in centigrade or Celsius is exactly 5 degrees. If you are comfortable at 75°F and sweating profusely at 93°F (18°, or two nines hotter), that's the same as sitting pretty at 24°C and sweating bullets at 34°C (two fives hotter). For other equivalences, 16°C is 61°F, -40°C is also -40°F, a sweltering 40°C is 102°F, and as the Centigrade scale goes up and down by fives, the Fahrenheit scale goes up and down by nines. ★

## The Lap(top) of Luxury

by Frank Dietz © 2002  
<http://www.jump.net/~fdietz>



These days, laptops come with fast processors (make sure, though, that you buy one with a processor actually designed for a laptop—some manufacturers stick desktop CPUs into laptops, which can cause problems in terms of heat and battery life), hard drives with at least 20 GB, DVD-ROM or combined DVD/CDRW drives, numerous ports, built-in networking, and more.

This should prove plenty for almost anything a translator will need (for the time being, that is).

Still, there are some drawbacks. Notebooks cost more than comparable desktops, and one spilled cup of coffee (or a fall from your desk) can become very expensive. They are also not as easily upgradeable as desktop PCs, as they lack expansion slots. On a desktop machine, for instance, you might gradually add a better video card, a second hard drive, a USB 2.0 connection, or other features, to extend the useful life of the machine, whereas laptops are much more limited in this aspect.

So, if mobility and a space-saving design are major factors in your decision process, you should consider notebooks. In terms of upgradeability and price/performance ratio, though, desktops still come out ahead. ★

WHEN IT IS TIME TO REPLACE that trusty but by now ancient computer (gosh, it must have been at least three or four years ago that you bought it), you might want to consider a notebook (laptop) rather than a desktop. Notebook computers, which used to be underpowered and overpriced, have come much closer to desktops in terms of performance and price/value ratio.

The obvious argument for a notebook is its portability. If you often work on-site (for linguistic software testing, for instance) or travel abroad, you will need a mobile solution anyway. One possibility would be to buy a so-called docking station that allows your laptop to be hooked up to a regular keyboard and a full-sized monitor while being used at home, but is easily disconnected when you need to take the computer on the road.

Even without a docking station, modern notebooks offer relatively large screens (14 or 15 inches are common, though Sony recently offered a 16.2-inch behemoth), and if you do not like the built-in keyboard, you can always attach a different one via the PS/2 or USB port. If your “home office” consists of a corner of your living room, you will appreciate how much space a laptop can save you.

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