

## HOW TO LIE WITH RATIOS

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"Ratios are a marketer's best friend." -- Anon.

Many claims in the computer field involve ratios, such as the current "Specmarks per MegaHertz" numbers trumpeted by a few companies. Why are ratios so important?

**IRON LAW OF RATIOS:**  
**If you are good at something, say so;**  
**if you are bad at everything, use a ratio.**

Thus, if you have the absolute best performance, say something about performance. If you have the absolute best price, say something about price. If you have neither, say something about price/performance or some other ratio.

## RATIO OFFENCE

On a scale of 1 to 10, your competitor's product ranks a 10 in frazzle-power, while yours is only a 5. You need a ratio that will inflate your 5 beyond the competitor's 10. Simple: look for something that you are **even worse** at, say trimodes, where your product is a 3 and the competitor a 10. Presto! Your product shines with a frazzle-power per trimodes ratio of  $5/3$  or 1.6, compared to the competitor's  $10/10$  or 1.0. Your product is obviously 1.6 times better!

**P. T. BARNUM'S RULE OF NUMBERS:**  
**Larger numbers are always better. Period.**  
**Do not confuse the public with facts.**

Notice that I didn't say above "on a scale of 1 to 10, 10 is better." Nor did you ask while reading this. "10" is **obviously** better. If your numbers do not fit this model, recast them. For example, disk compression products do not say "compresses to 0.4 of the original size," which to the Barnum public is obviously a worse product than one that compresses to 0.9 of original size. Disk compression products trumpet larger numbers as good, by specifying "...Breaks the 2.0:1 compression-ratio barrier!..."

## PRACTICE

**Q:** Your school is overcrowded with 40 students per class, and cannot afford more than one piece of audio-visual equipment for every 4 classrooms. The school across town has

20 students per class and a piece of equipment for every classroom. Cast your school in a positive light.

**A:** With the simple help of our friend the ratio, look at how **efficient** your school is:

160 students per video,

while the cross-town rivals have only:

20 students per video.

Your school is making **eight times** more efficient use of the taxpayer's hard-earned money! However, we can do even better...

<p><b>SITES' RULE OF COMPUTER NUMBERS: Always use "Mega- ."</b></p>
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Instead of students per video, use mega-students per video, or students per mega-video, whichever produces the larger number:

160,000,000 students per mega-video!

**Q:** Make your computer look good.

**A:** Use a meaningless mega-measure. How about mega-divides per model number? The Cray-1 is a clear winner here, with about 27 million divides per second and a model number of 1. In contrast, the VAX 7000 only does about 3 million divides per second and a model number of 7000:

Cray-1:            27/1 or 27 mega-divides per model number

VAX-7000:        3/7000 or 0.00043 mega-divides per model number

## **RATIO DEFENSE**

If your competitor uses a ratio, your life is simple. Your competitor is not good at anything! In fact, he has made it easy for you by specifying two things at which he is bad, and has told you which one is worse.

First, look at the denominator (after the "per"). This is where the competitor is **really** bad. Just point out how good you are, and that the competitor has had to resort to meaningless ratios to hide the fact that you are so much better.

Second, look at the numerator. The competitor is also bad here (but not quite so much). Just point out how good you are, and that the competitor has had to resort to meaningless ratios to hide the fact that you are better.

**Q:** Defend Specmarks per MegaHertz.

**A:** First, the denominator. Point out that the competitors are completely unable to achieve 300 MHz (and barely 1/3 of that speed), and will be unable to do so for several years, if ever. They are resorting to meaningless ratios to hide the fact that they build **very slow** transistors. Convert the discussion to the virtues of building absolutely the fastest transistors in the world, and why you are so superior at that, and will continue to be superior for years, and if the customer wants a real product now, there is no need to wait for the competition to catch up to your current offering years from now.

Second, the numerator. Point out that the competitors are completely unable to achieve 330 SpecInt (and barely 1/2 of that speed), and will be unable to do so for several years. They are resorting to meaningless ratios to hide the fact that they are **twice** as slow as you are. Convert the discussion to the virtues of fast absolute performance today, with no need to wait for the vaporous future.

**BOTTOM LINE:**

**Customers don't buy ratios;  
they buy absolutes in a price band.**