

A Couple of Math Tricks for Calculators

- (1) Ask a person, or a class to type in any three digit number. Then ask them to multiply that number by 7, and then by 13, and then by 11. What happens?

You will find that the original number is now repeated twice. So, if you thought of the number “3 5 2”, and then after multiplying by 7, 11 and 13, the answer will be 352 352. The reason why this works is because $7 \times 11 \times 13 = 1\,001$. And this means multiply 352 by 1 000 first to get 352 000, and then multiply 352 by 1 to get 352, and then add the two answers in red to get 352 352. Not only does this give you a neat result, but also it teaches you that 1 001 is NOT a prime number since $1\,001 = 7 \times 11 \times 13$.

- (2) If you have an older calculator or a cheaper calculator this usually works better. Here is question: “If 142 people of country A, fight 154 people of country B, over 69 oil wells for 5 years, who wins?”

Answer: $14215469 \times 5 = 71077345$. Now this doesn't look too spectacular does it? However, turn your calculator upside down, and it should spell out some words. I have found, that on modern calculators such as the Texas Instrument's TI -84 Plus that I have do not show this very well.

There are a few words that can be spelled on a calculator when viewed upside down. A “4” looks like an “h”, a “3” looks like an “E” etc. Can you make up any puzzle like the one above that spells out a word?

- (3) Here is another calculator experiment: try the following, and then see if you can figure out why it works (answer next week)

$$11^0 =$$

$$11^1 =$$

$$11^2 =$$

$$11^3 =$$

$$11^4 =$$

$$11^5 =$$