No Calculators!

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| Problem One* 142857 х 1 =
* 142857 х 2 =
* 142857 х 3 =
* 142857 х 4 =

… and so onWhat do you notice? | **Problem Two*** 112
* 1112
* 11112
* 111112

… and so onWhat happens? Why? |
| **Problem Three*** 3.32
* 3.332
* 3.3332
* 3.33332

… and so onWhat happens? Why? | **Problem Four**Investigate the decimal equivalents of:* 1/7, 2/7, 3/7, …
* 1/13, 2/13, 3/13, …
* 1/81
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| **Problem Five**What is the smallest number with 10 factors? | **Problem Six**Multiply the triangular numbers {1, 3, 6, 10 etc…} by 8 and add 1. What numbers do you get? |
| **Problem Seven**How do you calculate 65²?60 x 70 = 42004200 + 25 = 4225So 65² = 4225How do you calculate 145²?140 x 150 = 2100021000 + 25 = 21025So 145² = 21025Does this always work? Try with 15², 45² | **Problem Eight**Pick any three-digit numberRepeat it twice to make a six digit number (e.g. if you chose 973, you would now have 973973)* Divide by 7
* Divide by 11
* Divide by 13

What do you notice?Does this always happen? Why? |