

Teaching Chapter 1

Even if your students have had a programmable graphic calculator for some time, you will find that they are using them for little more than what they can do with a four-banger, a calculator that only does addition, subtraction, multiplication and division – sometimes with square root and percent keys added for good measure. Thus they have in hand a calculator that cost about \$100 doing tasks they could handle with a calculator that can be bought today for \$1. That is the setting in which you will almost certainly find yourself.

Here then are some of the things you will want to accomplish in Chapter 1:

1. Extend your students' calculator use to its additional functions: powers and roots, log and trig functions. That will at least bring them to the level of a scientific calculator. By this means you will raise the processing they can do with their \$100 calculator to what a \$5 calculator can do for them.
2. Reinforce some of the ideas of this chapter like the function machines of pages 6-8 and the accuracy of the GPS devices introduced on pages 13 and 14.
3. Add simple formula programming. Having your calculator calculate the area of a circle or the selling price when sales tax is added is not much, but it at least introduces students to some of the basic ideas of programming. It is this power together with the calculator's graphics capabilities that raise the value of these calculators to their full \$100. (In fact they accomplish more than what \$1000 computers could do in the 1960s and what \$1,000,000 computers could do in the 1950s.)
4. Use the cosine program of this chapter to see how well it calculates and whether it has any limitations. This will give students a chance to enter and apply a more complicated program and in the process do some exploring.
5. Begin to develop programs that apply some of the control structures introduced in Appendix A.

Note: I urge you to access and read the introductory materials about the exercises on the website before you begin working with the the individual exercise sets.