



Teacher Notes for Polygons

Compatibility: TI-83/83+/83+SE/84+/84+SE

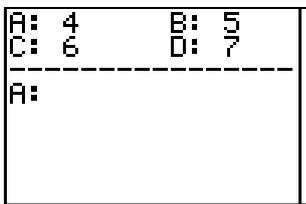
Run The Program Called: **POLYGONS**

► Summary

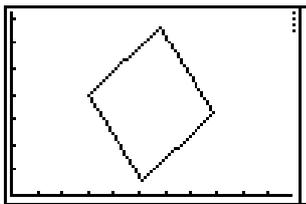
This program helps students develop a systematic approach, effective recording of results and the skills of conjecture and testing. This program is best used as a challenge for the students to find out what 4 inputted numbers do to generate a graphical output.

► Features

Instructions on how to use the program are best given verbally after a short introduction on using the calculator. In particular, show them the use of the backwards arrow and **DEL** keys to correct any typing errors. This is important for them to know from the start as it is possible for the program to “hang” if it receives confusing numerical input.



At each of the prompts A:? B:? C:? D:? a number must be typed in, followed by pressing **ENTER** to enter it.



The calculator will then draw a polygon on the screen and pause.

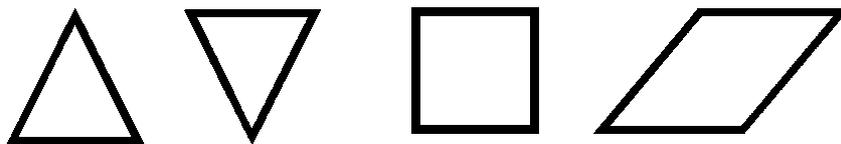
It will wait here until you press **ENTER** again, and then it will ask for another 4 inputs. It will display at the top of the screen the previous 4 inputs that you entered.

The program cycles continually until you press **ON** to **QUIT**.

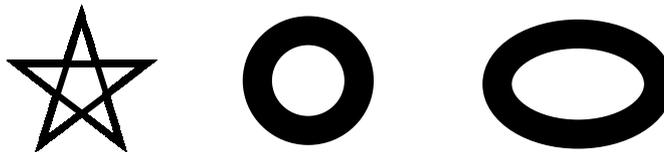
► Suggestions

To help focus the students on the task in hand, set them the following shapes to draw so that they appear as they are here on the calculator screens (with the correct orientations).

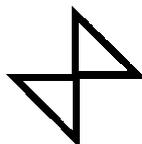
Get them to record their values of A to D for each.



A more difficult selection is:



Is it possible to draw this...



..if so, what are the numbers?
..if not, then why not?

Answers: A - Number of sides of polygon
B - Horizontal Scale Factor of display

C - Vertical Scale Factor of display
D - Angle of rotation in degrees (anticlockwise)