```
% SSA
% This program solves any triangle, if we know any
% two sides and the angle after the second one. It computes
% the remaining data and outputs the triangle data
% as SIDE ANGLE SIDE ANGLE SIDE ANGLE, clockwise
% or counterclockwise, depending on the order in
% you entered your data.
% By L.Linares 2011

%                       A3
%                      /|
%                   S1/ |
%                    /  |S3
%                   /   |
%                A1 ---- A2
%                    S2

% VERY IMPORTANT: To type this program on a regular
%   text file, I had to replace some HP50 keys by
%   certain strings. So ...
%   Where I wrote        you type
%        *               [multiply key]
%        ACOS            [WHITE SHIFT] COS
%        ^               [y to the x key]
%        >=              [WHITE SHIFT] PRG/TEST/F6
%        >               [WHITE SHIFT] PRG/TEST/F4
%        SQRT            press square root key (*)
%        ->TAG           [WHITE SHIFT] PRG/TYPE/->TAG
%        ->              [RED SHIFT] [zero key]
%        {new line}      [RED SHIFT] [dot key]
%   (*) Do NOT type the letters SQRT ... it won't work!
% Usage: Enter the three side lengths on the stack
%        3: S1
%        2: S2
%        1: A2(in degrees)
%        Then run the program!
% This problem may have two solutions. After displaying
% the first solution, the program halts, and waits for
% your command [WHITE SHIFT] CONT, to display the
% second solution.
% VERY IMPORTANT: Store this program as 'SSA',
% because the other four programs in this series
% will "call" this one by that name!
% This program is provided on a "as is" basis, for
% reference ONLY, and no warranty of its accuracy or
% correctness is made. If you use it, you use it at your
% own risk.

<<
   -17 FS?
   -> S1 S2 A2 X
   <<
      IF 'X==1' THEN DEG END
      'S2 * COS(A2)' EVAL
      'SQRT(S1^2 - S2^2 * SIN(A2)^2)' EVAL
      -> X Y
      <<
         IF 'S1 >= S2*SIN(A2)' THEN
           S1  S2  X  Y  +  'SSS' EVAL
           IF 'X > Y' THEN
              HALT  S1  S2  X  Y  -  'SSS' EVAL
           END
         END
      >>
      IF 'X==1' THEN RAD END
   >>
>>
```