TI-84 Program for finding gcd(A,B)

It also solves AV+BH=0

Press PRGM NEW, then ENTER Type in program name when prompted by NAME=, suggestions: EEA or GCD

Press ENTER

And enter these commands:

COMMANDS:		EXPLANATION:
Input "A=", A Input "B=", B		These commands will display A= and then B= as prompts to enter the numbers A and B
Ø→V 1→N Ø→M 1→H		V and W are N and M one step back.
B→R		R=A*N+B*M B is the first R
While R>Ø		The "while end" is a loop. This part of the code will repeat the Euclidean algorithm step until R = Ø.
B→G		First, we store B into G. This is a housekeeping trick that will guarantees that gcd(A, B) ends up in.
int(A/B)→Q A-Q*B→R		The next two steps compute Q and R in the next step of the algorithm: A - Q x B = R.
V→T N-Q*V→V T→N H→T M-Q*H→H T→M		Next we compute the number of A's and B's in the combination for the new R. Notice how we save V in a temporary location, T, and make a new value for W. Repeat the steps for the right-left arrows.
B→A R→B End		We get ready for the next step by moving B to A and R to B.
Disp "GCD=" Disp G Disp N,M Disp V,H Stop		When the loop is done, we display our answers. First, the greatest common divisor of A and B, gcd(A,B), which is in the variable G. Then the calculated solution, N and M, to the equation AN+BM=gcd(AB). Finally, the solution to AV+BH=Ø