

Homework on §3

Due: Thursday, February 14

1. Silverman 5.4.
2. Silverman 6.1.
3. Silverman 6.3. To prove the program works, show by induction that b divides both $g_n - ax_n$ and $w_n - av_n$. (Incidentally, in Python you don't need either of the variables s or t .)
4. Silverman 6.4.
5. Silverman 7.1.
6. Silverman 7.2.
7. Two players play the following game: The numbers 25 and 36 are written on a board. On each player's turn, they select any two numbers currently up and write on the board the positive difference of those two numbers, provided the difference is not already written on the board. The game continues until a player cannot write anything down. The last player to write down a number wins. Does the game always end? If so, assuming perfect play, who wins?