Homework 2
Mike Skalnik

4.

5.

6.

$$\begin{aligned} 5544a + 910b &= d \\ 5544 &= 6 \times 910 + 84 \\ 910 &= 10 \times 84 + 70 \\ 84 &= 1 \times 70 + 14 \\ 70 &= 5 \times 14 + 0 \end{aligned}$$

Now we have d, so we go backwards to get a & b.

$$\begin{aligned} 14 &= 84 - 1 \times 70 \\ &= 84 - 1\,(910 - 10 \times 84) \\ &= 11 \times 84 - 1 \times 910 \\ &= 11\,(5544 - 6 \times 910) - 1 \times 910 \\ 14 &= 11 \times 5544 - 67 \times 910 \end{aligned}$$

9.

12. (two proofs)

16.

18.