

4.3

40. c)

$$44 = 33 \cdot 1 + 11$$

$$33 = 11 \cdot 3 + 0$$

So, gcd is 11.

$$11 = 1 \cdot 44 - 1 \cdot 33$$

d)

$$55 = 21 \cdot 2 + 13$$

$$21 = 13 \cdot 1 + 8$$

$$13 = 8 \cdot 1 + 5$$

$$8 = 5 \cdot 1 + 3$$

$$5 = 3 \cdot 1 + 2$$

$$3 = 2 \cdot 1 + 1$$

$$2 = 1 \cdot 2 + 0$$

$$1 = 21 \cdot 21 + -8 \cdot 55$$

e)

$$203 = 2 \cdot 101 + 1$$

$$101 = 101 \cdot 1 + 0$$

$$1 = 1 \cdot 203 - 2 \cdot 101$$

f)

$$323 = 124 \cdot 2 + 75$$

$$124 = 75 \cdot 1 + 49$$

$$75 = 49 \cdot 1 + 26$$

$$49 = 26 \cdot 1 + 23$$

$$26 = 23 \cdot 1 + 3$$

$$23 = 3 \cdot 7 + 2$$

$$3 = 2 \cdot 1 + 1$$

$$2 = 1 \cdot 2 + 0$$

$$1 = -112 \cdot 124 + 43 \cdot 323$$

g)

$$2339 = 2002 \cdot 1 + 337$$

$$2002 = 337 \cdot 5 + 317$$

$$337 = 317 \cdot 1 + 20$$

$$317 = 20 \cdot 15 + 17$$

$$20 = 17 \cdot 1 + 3$$

$$17 = 3 \cdot 5 + 2$$

$$\begin{aligned}3 &= 2 \cdot 1 + 1 \\2 &= 1 \cdot 2 + 0\end{aligned}$$

$$1 = -819 \cdot 2002 + 701 \cdot 2339$$

42.

44

50.

54.