

Exercise 1

- a) The equations are equivalent to $y = 4x - 3$ and $y = \frac{-x+1}{2}$ respectively and can thus be trivially drawn. They intersect at $x = \frac{7}{9}$.
- b) As determined previously we have

$$\begin{aligned} 4x - 3 &= \frac{-x+1}{2} \\ 8x - 6 &= -x + 1 \\ 9x &= 7 \\ x &= \frac{7}{9} \end{aligned}$$

which is expected.

Exercise 2

a)

| | | | | | | | | | | | | | |
|-----|---|----|----|----|--|---|----------|---|----|----|----|--|---|
| I | 1 | 1 | 3 | 1 | | 0 | I | 1 | 1 | 3 | 1 | | 0 |
| II | 0 | -1 | -1 | -1 | | 1 | II | 0 | -1 | -1 | -1 | | 1 |
| III | 3 | 1 | 5 | 3 | | 0 | III - 3I | 0 | -2 | -4 | 0 | | 0 |
| IV | 1 | 5 | 11 | 8 | | 0 | IV - I | 0 | 4 | 8 | 7 | | 0 |

| | | | | | | | | | | | | | |
|-----------|---|----|----|----|--|----|-----------|---|----|----|----|--|----|
| I | 1 | 1 | 3 | 1 | | 0 | I | 1 | 1 | 3 | 1 | | 0 |
| II | 0 | -1 | -1 | -1 | | 1 | II | 0 | -1 | -1 | -1 | | 1 |
| III - 2II | 0 | 0 | -2 | 2 | | -2 | III | 0 | 0 | -2 | 2 | | -2 |
| IV + 4II | 0 | 0 | 4 | 3 | | 4 | IV + 2III | 0 | 0 | 0 | 7 | | 0 |

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