1 *Consider the equation*

$$3x + 6y = 18$$

in (x, y).

a *What are the interepts of its graph?*

To find the x-intercept, I set y to 0 and solve:

$$\begin{aligned} 3x + 6y &= 18; \\ 3x + 6(0) &= 18; \\ 3x &= 18; \\ x &= 6. \end{aligned}$$

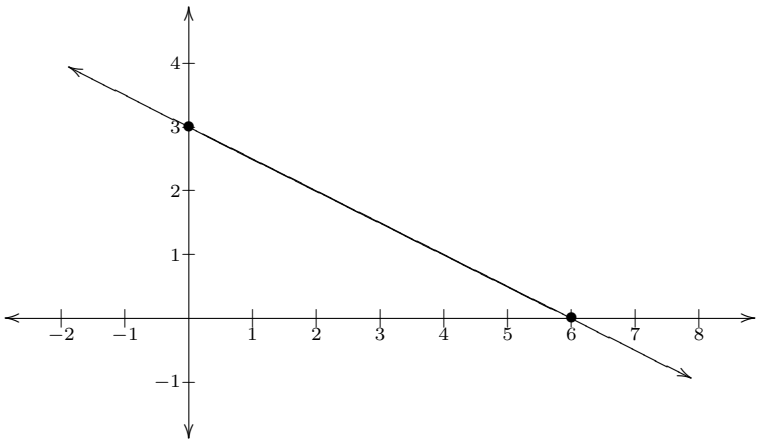
To find the y-intercept, I set x to 0 and solve:

$$\begin{aligned} 3x + 6y &= 18; \\ 3(0) + 6y &= 18; \\ 6y &= 18; \\ y &= 3. \end{aligned}$$

Therefore, the intercepts are

$$(6, 0),\ (0, 3).$$

b *Graph it, showing its intercepts.*



2 *Consider the equation*

$$2x + y = 4$$

in (x, y).

a *What is the slope of its graph?*

To find the slope, I solve for y:

$$\begin{aligned} 2x + y &= 4; \\ y &= -2x + 4. \end{aligned}$$

Therefore, the slope is

$$-2.$$

b *Graph it, showing the y-intercept and at least two other points.*

The y-intercept is $(0, 4)$; from here I can move down 2 and right 1 to $(1, 2)$ and then again to $(2, 0)$, or I can move backwards to $(-1, 6)$.