Exercise 62

Graph the linear function f where $f(x) = ax + b$ on the same set of axes on a domain of $[-4, 4]$ for the following values of a and b.

  a. $a = 2$; $b = 3$

  b. $a = 2$; $b = 4$

  c. $a = 2$; $b = -4$

  d. $a = 2$; $b = -5$

Solution

The equation of the linear function with slope 75 and y-intercept -22.5 is

$$y = 75x - 22.5.$$

If the input is $x = -0.1$, then the output is

$$y = 75(-0.1) - 22.5 = -30.$$

If the input is $x = 0.1$, then the output is

$$y = 75(0.1) - 22.5 = -15.$$

The function is plotted below versus x on the domain $[-0.1, 0.1]$.