

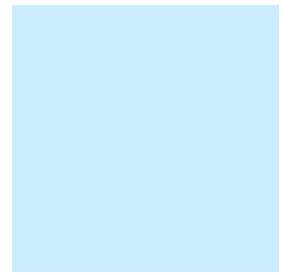
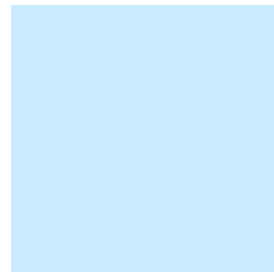
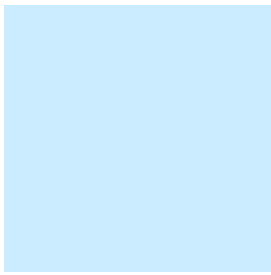
Linear Equations

Definition. A *linear equation* in the variables x_1, x_2, \dots, x_n is an equation of the form

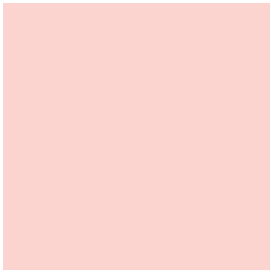
$$a_1x_1 + a_2x_2 + \dots + a_nx_n = b$$

where a_1, a_2, \dots, a_n, b are real numbers (\mathbb{R})

coefficients



unknowns



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Linear Equations (Point sets)

Linear equations describe *point sets*:

$$\{(s_1, s_2, \dots, s_n) \in \mathbb{R}^n : a_1 s_1 + a_2 s_2 + \dots + a_n s_n = b\}$$