

$$x\vec{a} + y\vec{b} = \vec{c}$$

$$xa_1 + yb_1 = c_1 \quad | \cdot a_2$$

$$xa_2 + yb_2 = c_2 \quad | \cdot a_1$$

$$xa_1 + yb_1 = c_1$$

$$y \cdot (b_1a_2 - b_2a_1) = c_1a_2 - c_2a_1$$

$$xa_1 + yb_1 = c_1$$

$$y = \frac{a_2c_1 - a_1c_2}{a_2b_1 - a_1b_2}$$

