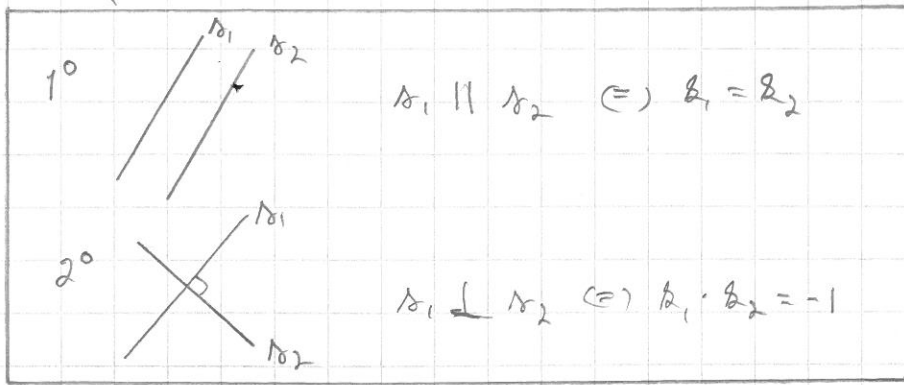


$$\Rightarrow k_1 \cdot k_2 = \frac{b_0}{a} \cdot \left(-\frac{a}{b_0}\right) = -1$$

Sitten



Esim. Ovatko suorat $5x - 7y + 2 = 0$ ja $7x + 5y + 1 = 0$ kohtisuoria?

Ratk. $5x - 7y + 2 = 0 \Leftrightarrow 5x + 2 = 7y \quad | :7 \Leftrightarrow y = \frac{5}{7}x + \frac{2}{7} \Rightarrow k_1 = \frac{5}{7}$
 $7x + 5y + 1 = 0 \Leftrightarrow 5y = -7x - 1 \quad | :5 \Leftrightarrow y = -\frac{7}{5}x - \frac{1}{5} \Rightarrow k_2 = -\frac{7}{5}$
 $\Rightarrow k_1 \cdot k_2 = \frac{5}{7} \cdot \left(-\frac{7}{5}\right) = -1 \Rightarrow$ ovat kohtisuoria

8.13 $(-4, -7)$

a) $2x - 5y + 3 = 0 \Leftrightarrow 2x + 3 = 5y \quad | :5 \Leftrightarrow y = \frac{2}{5}x + \frac{3}{5} \Rightarrow k = \frac{2}{5}$
 suora: $y - (-7) = \frac{2}{5}(x - (-4)) \Leftrightarrow y = \frac{2}{5}x - \frac{27}{5}$

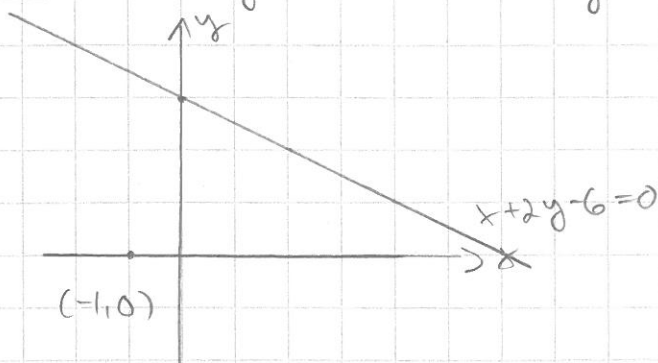
Γ_{TA1} : $2x - 5y + 3 = 0 \rightarrow 2x - 5y + a = 0$
 $(-4, -7)$ on suoralla: $2 \cdot (-4) - 5 \cdot (-7) + a = 0 \Leftrightarrow a = -27$
 $\Rightarrow \underline{2x - 5y - 27 = 0}$

b) $4x + 3y - 9 = 0 \Leftrightarrow 3y = -4x + 9 \quad | :3 \Leftrightarrow y = -\frac{4}{3}x + 3 \Rightarrow k_1 = -\frac{4}{3}$
 $k_1 \cdot k_2 = -1 \quad | :k_1 \Leftrightarrow k_2 = -\frac{1}{k_1} = -\frac{1}{-\frac{4}{3}} = \frac{3}{4}$

suora: $y - (-7) = \frac{3}{4}(x - (-4)) \Leftrightarrow y = \frac{3}{4}x - 4$

Esim. Miten suoran $x + 2y - 6 = 0$ piste on lähinnä pistettä $(-1, 0)$?

Ratk. $x + 2y - 6 = 0 \Leftrightarrow 2y = -x + 6 \quad | :2 \Leftrightarrow y = -\frac{1}{2}x + 3$



$k = \frac{\Delta y}{\Delta x} = -\frac{1}{2} = -\frac{1}{2}$
 (2 oikealle $\Delta x = 2$
 1 alav $\Delta y = -1$)

Γ_{TA1} : $x + 2y - 6 = 0$
 $x = 0: 2y - 6 = 0 \Leftrightarrow y = 3$
 $y = 0: x - 6 = 0 \Leftrightarrow x = 6$
 \Rightarrow pistet: $(0, 3)$ ja $(6, 0)$