

0.31
3

(1)

$$\begin{cases} x_1 x_2 + 3 = 2x_1 + 2x_2 \\ m x_1 x_2 = 2m^2 + 1 - x_1 - x_2 \end{cases}$$

$$\begin{cases} u + 3 = 2w \\ m u = 2m^2 + 1 - w \end{cases}$$

$$\begin{aligned} u &= x_1 x_2 \quad : (NO) \\ w &= x_1 + x_2 \end{aligned}$$

$$\begin{cases} u = 2w - 3 \\ m(2w - 3) = 2m^2 + 1 - w \end{cases}$$

$$w(2m + 1) = 2m^2 + 3m + 1$$

$$w(2m + 1) = (m + 1)(2m + 1) \quad /: (m + 0.5)$$

$$w = m + 1$$

$$u = 2(m + 1) - 3 = 2m - 1$$

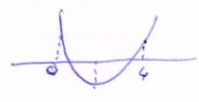
~~$$x^2 - (2m + 1)x + 2m - 1 = 0$$~~

המשוואה הריבועית תהיה
 $x^2 - (m + 1)x + 2m - 1 = 0$

(2)

$$x^2 - (m + 1)x + 2m - 1 = 0$$

- $\Delta > 0$: (נדרש)
- $f(u) > 0$
- $f(0) > 0$
- $-\frac{b}{2a} > 0$



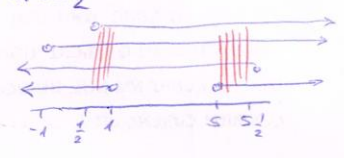
$$0 < (m + 1)^2 - 4(2m - 1) = m^2 - 6m + 5$$



$$0 < 16 - 4m - 4 + 2m - 1 = -2m + 11 \rightarrow m < 5.5$$

$$0 < 2m - 1 \rightarrow \frac{1}{2} < m$$

$$0 < \frac{m + 1}{2} \rightarrow -1 < m$$



$$\frac{1}{2} < m < 1 \quad 5 < m < 5.5$$