

0.12  
3

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

$$m \neq 0$$

$$|x_2 - x_1| < 1 \quad \text{or} \quad \Delta > 0 \quad (2.173)$$

$$0 < \Delta = (2m+1)^2 - 4m \cdot 2 = 4m^2 + 4m + 1 - 8m = 4m^2 - 4m + 1 = (2m-1)^2 \rightarrow m \neq 1/2$$

$$1 > |x_2 - x_1| = \sqrt{(x_1 + x_2)^2 - 4x_1x_2} = \sqrt{\frac{(2m+1)^2}{m^2} - \frac{8m}{m}} = \sqrt{\frac{4m^2 + 4m + 1 - 8m}{m^2}}$$

$$1 > \frac{4m^2 + 4m + 1 - 8m}{m^2} \rightarrow m^2 > 4m^2 - 4m + 1$$

$$0 > 3m^2 - 4m + 1$$

$$\frac{1}{3} < m < 1$$

$$m \neq \frac{1}{2}, \quad \frac{1}{3} < m < 1$$



מספרים של  $m$