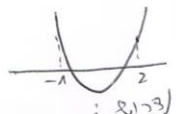


1.87  
1) (a)  $(m+2)x^2 - (2m-1)x + (m-3) = 0$   
 אילו המספרים הם מסויים, אילו הם אינם מסויים 2 מסויים 2  $m \neq -2$

$$x^2 - \frac{2m-1}{m+2}x + \frac{m-3}{m+2} = 0$$



$$0 < f(2) = 4 - \frac{4m-2}{m+2} + \frac{m-3}{m+2} = \frac{m+7}{m+2}$$

$$0 < f(-1) = 1 + \frac{2m-1}{m+2} + \frac{m-3}{m+2} = \frac{4m-2}{m+2}$$

$$0 < \Delta = 4m^2 - 4m + 1 - 4m^2 + 4m + 24 = 25 \checkmark \rightarrow (m \neq -2)$$

$$-1 < \frac{-b}{2a} < 2 \rightarrow -1 < \frac{2m-1}{2(m+2)} < 2$$

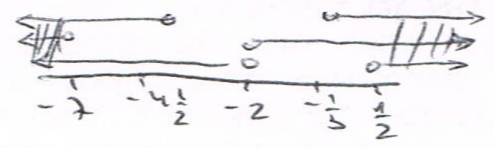
$$0 < \frac{4m+7}{2(m+2)} \quad \frac{-2m-9}{m+2} < 0$$

$$m < -2 \quad \vee \quad m > -\frac{3}{4}$$

$$m < -\frac{1}{2} \quad \vee \quad m > -2$$

$$m < -\frac{1}{2} \quad \vee \quad m > -\frac{1}{2}$$

אילו מספרים ב ג' מסויים



$$m > \frac{1}{2} \quad \vee \quad m < -7$$

(b)

$$y_1 + y_2 = 3x_1 + 3x_2 = 3 \left( \frac{2m-1}{m+2} \right) = \frac{6m-3}{m+2}$$

$$y_1 y_2 = (2x_1 + x_2)(x_1 + 2x_2) = 2x_1^2 + 5x_1 x_2 + 2x_2^2 = 2(x_1 + x_2)^2 + 5x_1 x_2 = 0$$

$$= 2 \left[ \left( \frac{2m-1}{m+2} \right)^2 - 2 \frac{m-3}{m+2} \right] + 5 \frac{m-3}{m+2} = 2 \left[ \frac{4m^2 - 4m + 1 - 2m^2 + 2m + 12}{(m+2)^2} \right] + \frac{5m-15}{m+2} =$$

$$= \frac{4m^2 - 4m + 26 + 5m^2 - 5m - 30}{(m+2)^2} = \frac{9m^2 - 9m - 4}{(m+2)^2}$$

$$y^2 - \frac{6m-3}{m+2}y + \frac{9m^2 - 9m - 4}{(m+2)^2} = 0 \quad \text{אילו מספרים מסויים}$$

$$(m+2)^2 y^2 - (6m^2 + 9m - 6)y + 9m^2 - 9m - 4 = 0$$