

0.43
2

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

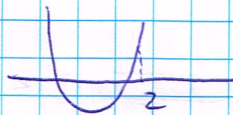
אברהם פלמן

$$-2x^2 + 4xm + 3x^2 + x - 3xm - m + 9x + 3 = 0$$

$$x \neq m+3 \\ x \neq -2m$$

$$(*) \quad 5x^2 + xm + 10x - m + 3 = 0$$

$$f(x) > 0, \quad \frac{b}{2a} < 2, \quad \Delta > 0 \quad (1) > 3)$$



$$0 < \Delta = (m+10)^2 - 20(m+3) = m^2 + 20m + 100 + 20m - 60 = m^2 + 40m + 40$$

$$\boxed{m > -20 + 6\sqrt{10}} \\ \boxed{m < -20 - 6\sqrt{10}}$$

$$2 \gg \frac{-m+10}{10} \rightarrow 0 \gg \frac{-m-30}{10} \rightarrow \boxed{m > -30}$$

$$0 < f(2) = 20 + 2m + 20 - m + 3 \rightarrow \boxed{-43 < m}$$

$$\boxed{m > -20 + 6\sqrt{10}} \quad (1) > 0$$

(*) \rightarrow א) $x = -2m$, ב) $x = m-3$ עבור m מסוימים (שיהיה נכון) \rightarrow א) $x = -2m$

$$0 = 5(-2m)^2 - 2m \cdot m + 10(-2m) - m + 3 = 18m^2 - 2m + 3 = 3(m-1)(6m-1) \rightarrow m \neq 1, \frac{1}{6}$$

$$0 = 5(m-3)^2 + (m-3)m + 10(m-3) - m + 3 = (m-3)(5m+15+m+10-1) = (m-3)(6m-6)$$

$$m \neq 3, 1$$

$$m \neq 1, 3, \frac{1}{6}, \quad m > -20 + 6\sqrt{10} \quad (1) > 0$$