

UČNI LIST – Racionalna funkcija – 2

1) Nariši graf racionalne funkcije:

a) $f(x) = \frac{x^2 - 4x + 3}{x - 2}$

b) $f(x) = \frac{x^2 - x - 2}{-x + 3}$

c) $f(x) = \frac{x^2 + 4x + 4}{x + 1}$

d) $f(x) = \frac{x^2 + x}{x + 2}$

2) Nariši graf racionalne funkcije:

a) $f(x) = \frac{x^2 - 2x}{x - 3}$

b) $f(x) = \frac{x^2 - 4x + 4}{-x + 1}$

c) $f(x) = \frac{x^2 + x + 0,25}{2 - x}$

d) $f(x) = \frac{-x^2 - 4x - 4}{x + 3}$

3) Reši racionalno neenačbo:

a) $\frac{-x + 2}{x + 4} < 0$

b) $\frac{x^2 - x - 6}{x^2 + 2x - 3} < 0$

c) $\frac{x^2 - 3x + 2}{x + 2} > 0$

d) $\frac{x - 2}{x^2 - 2x - 3} \leq 0$

4) Reši racionalno neenačbo:

a) $\frac{x^2 - 2x - 3}{x^2 - 4} < 0$

b) $\frac{x^2 - 4x + 3}{x^2 + 4} > 0$

c) $\frac{x^2 - 4x + 4}{x - 3} \geq 0$

d) $\frac{x^2 - x - 2}{-x^2 + 2x + 8} \leq 0$

5) Reši iracionalno enačbo:

a) $\sqrt{x - 3} = 2$

b) $x - 3 = \sqrt{x + 3}$

c) $x + 1 = \sqrt{6x + 1}$

d) $4x = 10 - \sqrt{3x - 2}$

6) Reši iracionalno enačbo:

a) $x + 3 = 8 - \sqrt{x - 3}$

b) $\sqrt{6 + \sqrt{x + 2}} = 3$

c) $\sqrt{x + 3} = 7 - \sqrt{22 - x}$

d) $\sqrt{x + 4} + \sqrt{x - 1} = \sqrt{2x + 15}$

7) Reši iracionalno enačbo:

a) $\sqrt{2x + 3} + \sqrt{x + 1} = \sqrt{9x - 2}$

b) $\sqrt{x + 5} - \sqrt{x - 2} = \sqrt{2x - 21}$

c) $\sqrt{4x + 1} = 2 + \sqrt{x + 3}$

8) Reši iracionalno enačbo:

a) $\sqrt{4x + 1} + \sqrt{x + 2} = \sqrt{7x + 11}$

b) $\sqrt{2x - 2} - \sqrt{x + 2} = \sqrt{x - 6}$

c) $\sqrt{x + 5} + \sqrt{2x + 1} = \sqrt{10x - 4}$

9) Reši iracionalno enačbo:

a) $\sqrt{x - \sqrt{2x}} = 2$

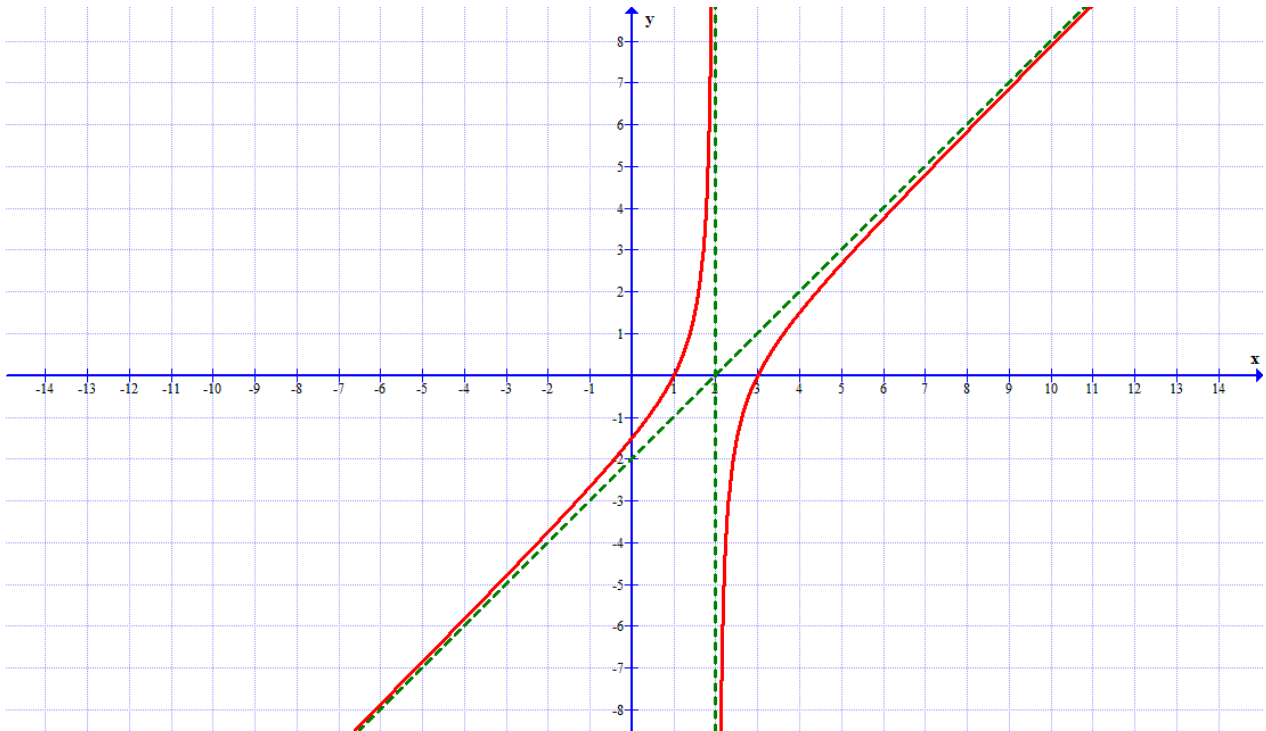
b) $\sqrt[3]{x + 5} = x - 1$

c) $\sqrt{x - \sqrt[3]{3x + 6}} = 2$

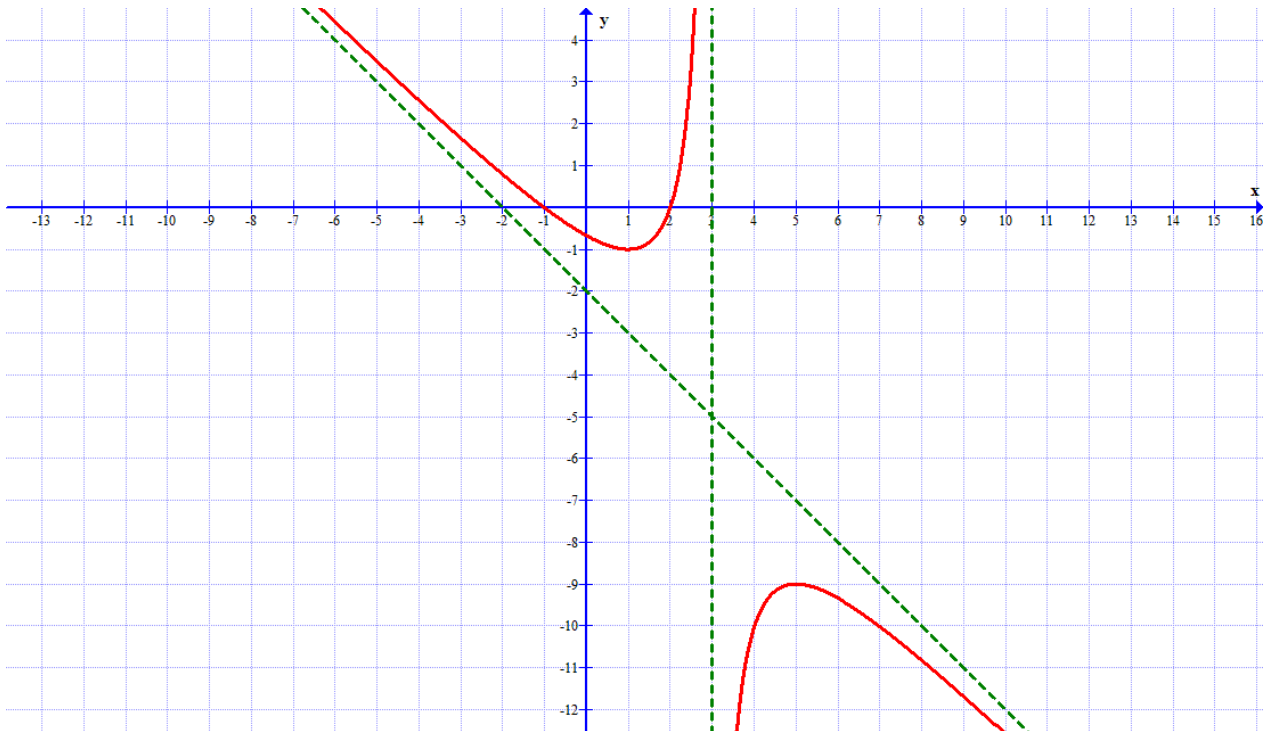
d) $\sqrt[3]{2x - 2} - \sqrt[3]{x - 4} = \sqrt[3]{2x - 9}$

REŠITVE UČNEGA LISTA – Racionalna funkcija – 2

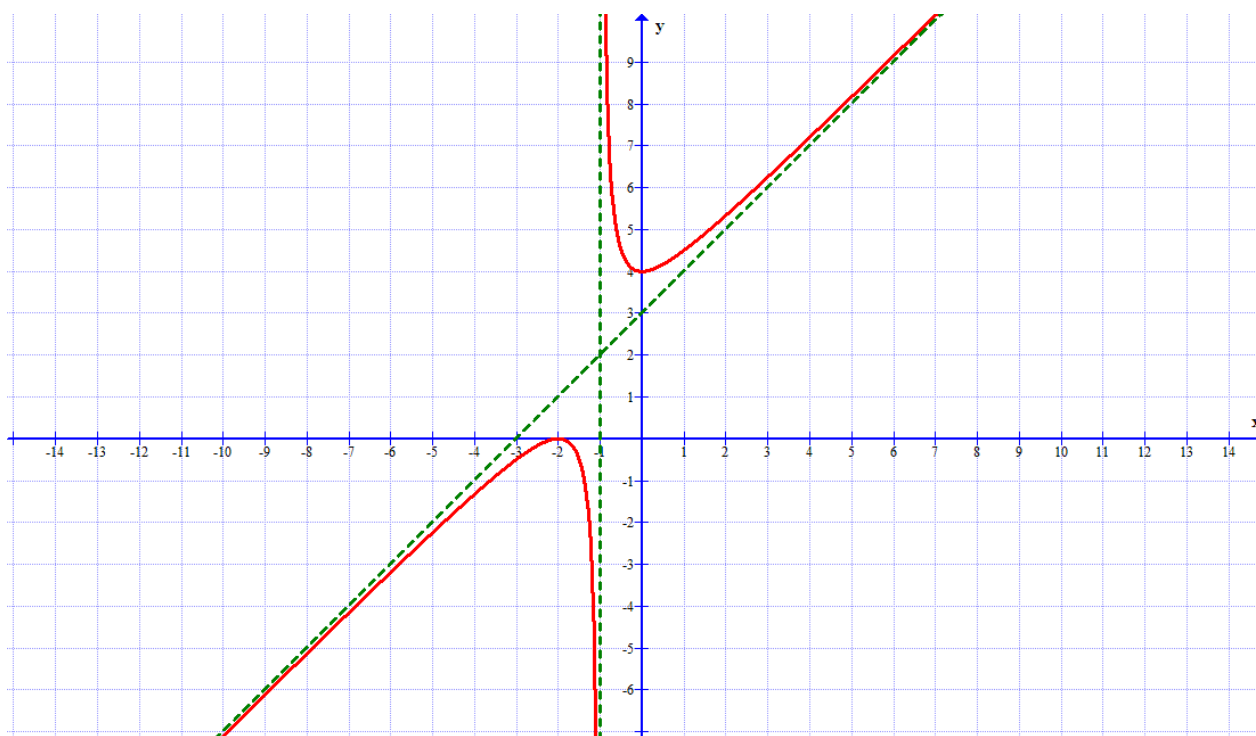
1) a) $N: x_1=1, x_2=3; P: x_1=2; Ak: y=x-2; P_{Ak}: \emptyset$



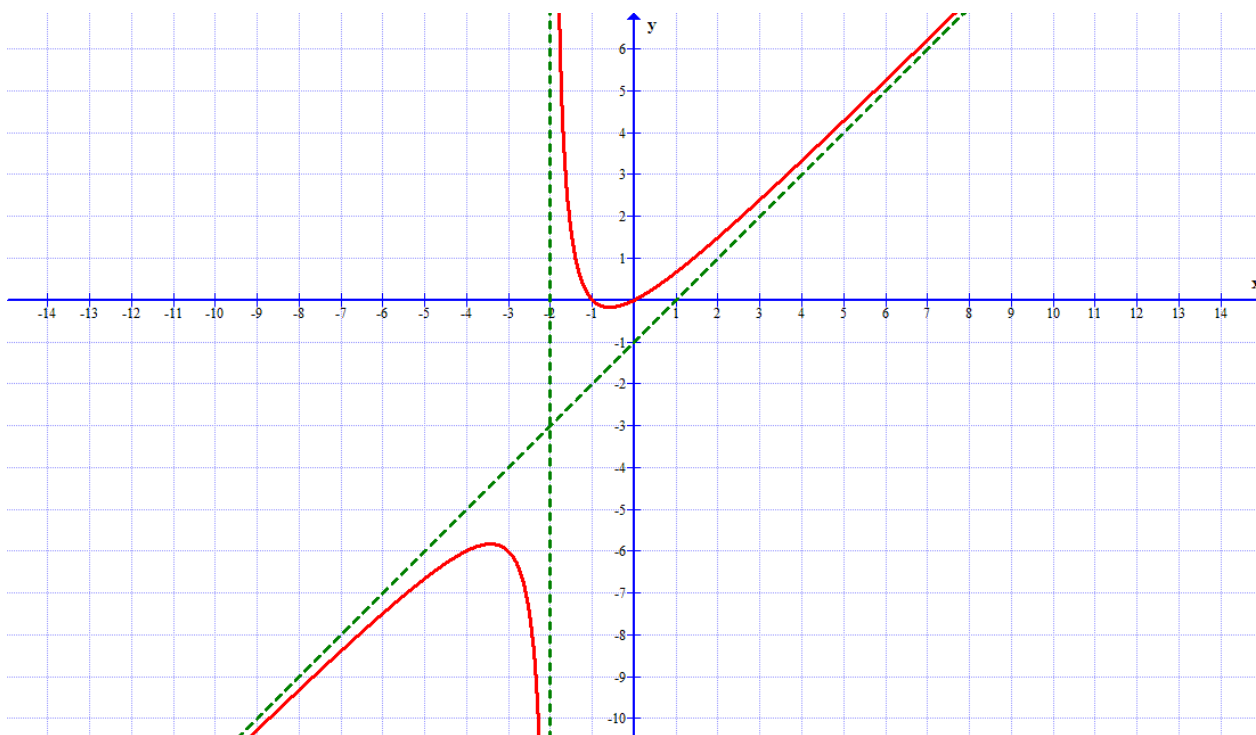
b) $N: x_1=-1, x_2=2; P: x_1=3; Ak: y=-x-2; P_{Ak}: \emptyset$



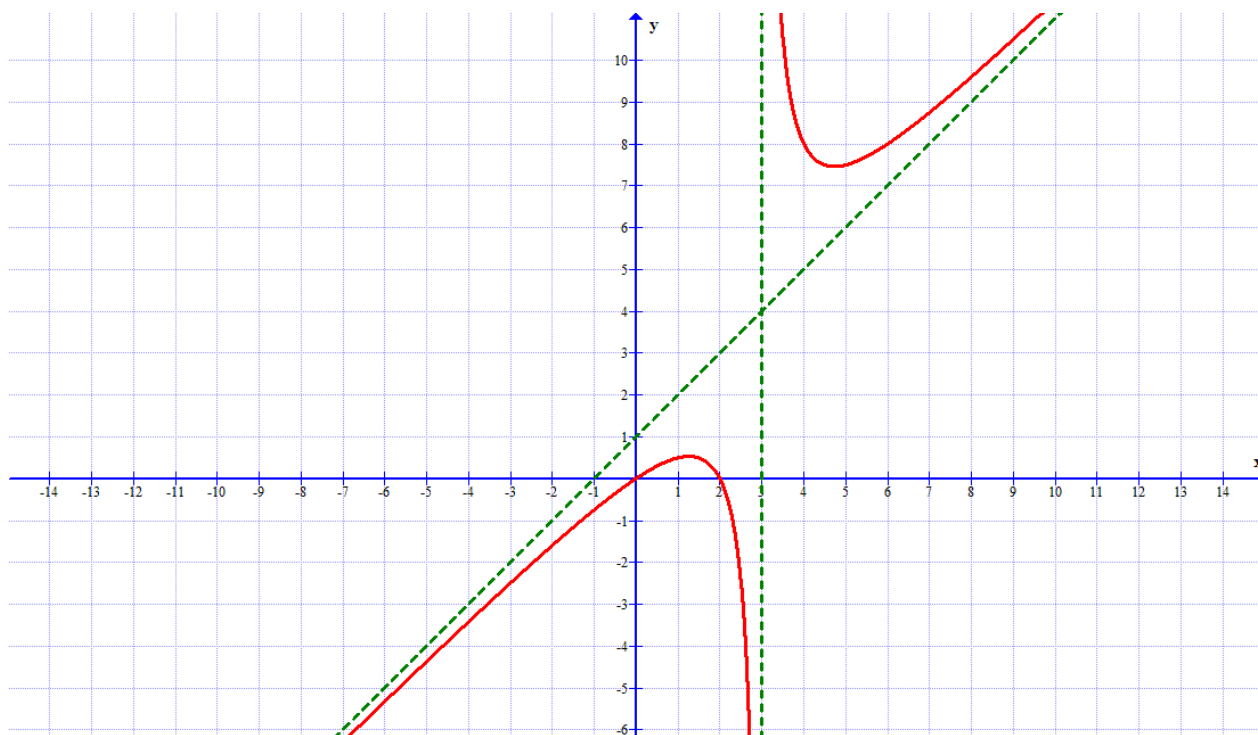
c) $N: x_{1,2} = -2$; $P: x_1 = -1$; $Ak: y = x + 3$; $P_{Ak}: \emptyset$



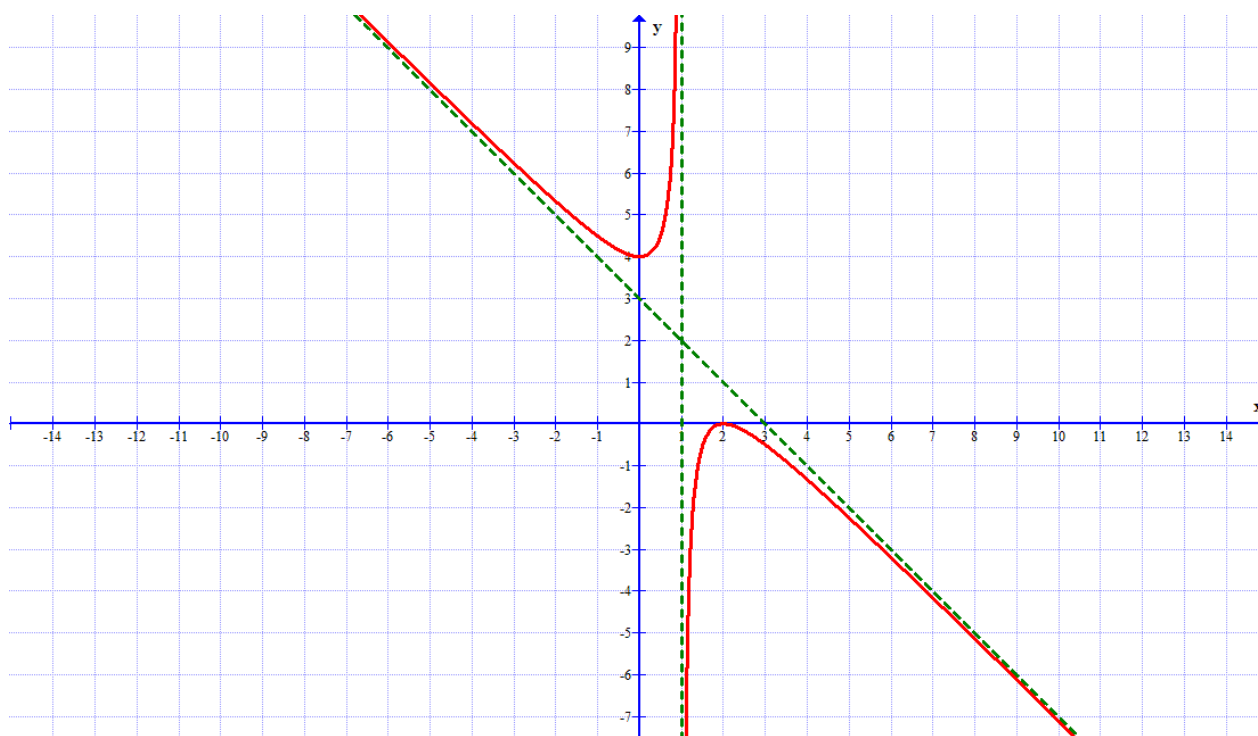
d) $f(x) = \frac{x^2 + x}{x + 2}$ $N: x_1 = -1, x_2 = 0$; $P: x_1 = -2$; $Ak: y = x - 1$; $P_{Ak}: \emptyset$



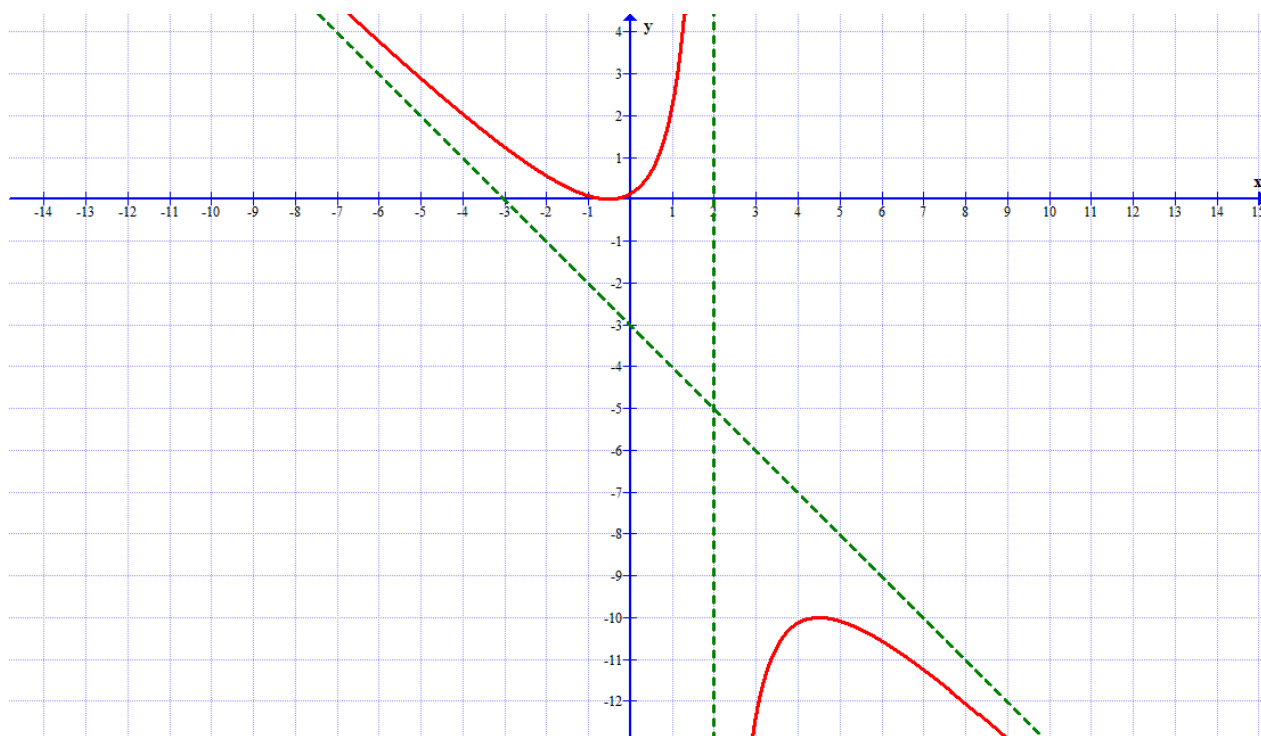
2) a) $N: x_1=0, x_2=2; P: x_1=3; Ak: y=x+1; P_{Ak}: \emptyset$



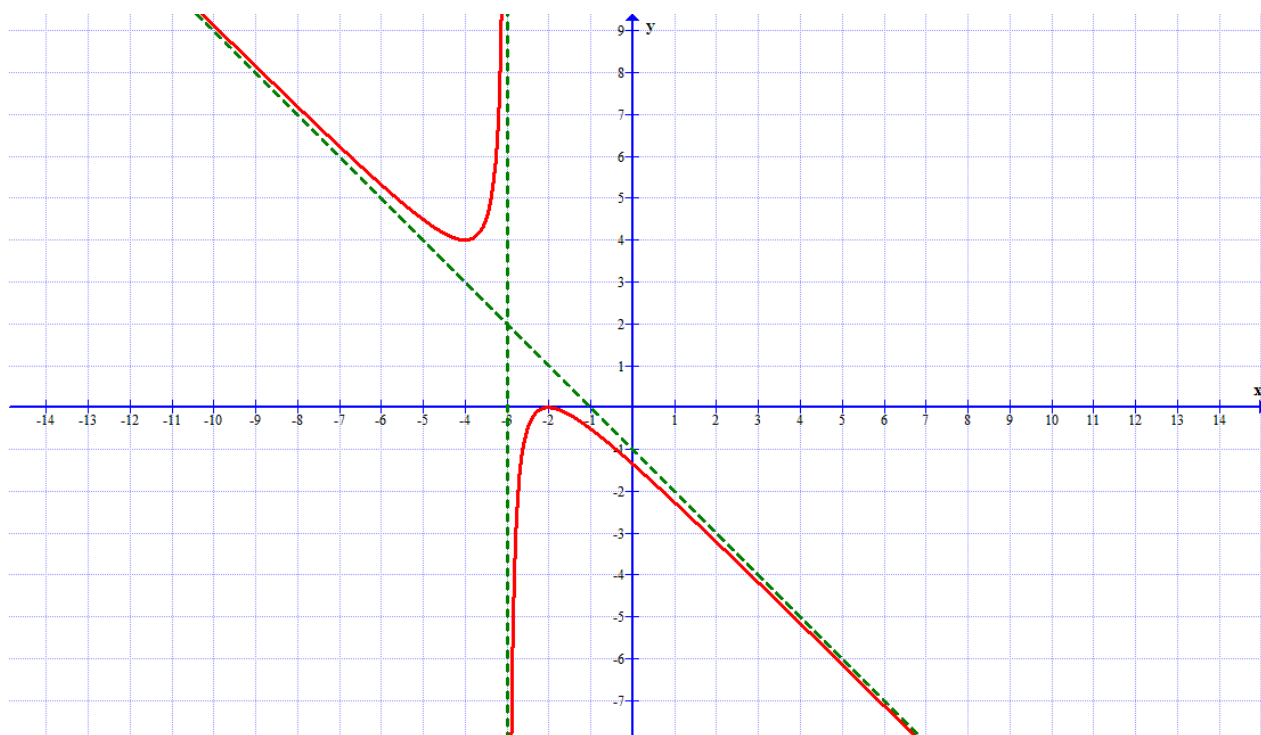
b) $N: x_{1,2}=2; P: x_1=1; Ak: y=-x+3; P_{Ak}: \emptyset$



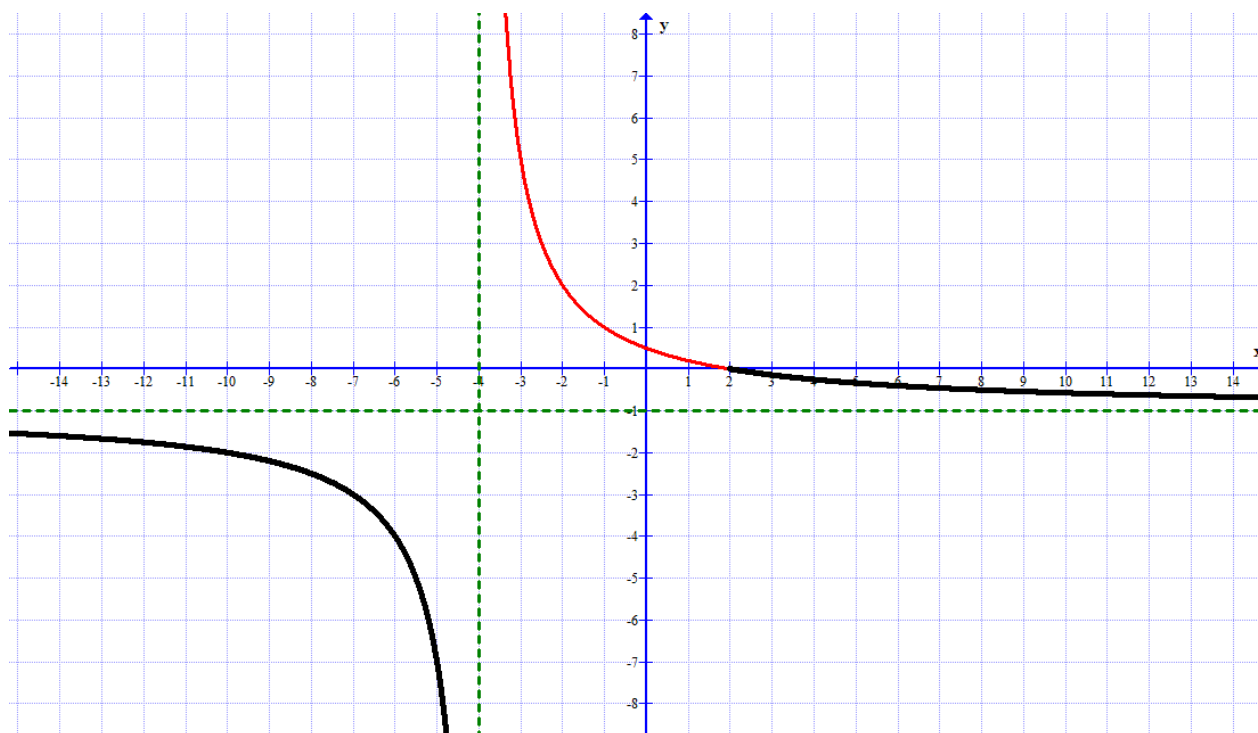
c) $N: x_{1,2} = -\frac{1}{2}; P: x_1 = 2; Ak: y = -x - 3; P_{Ak}: \emptyset$



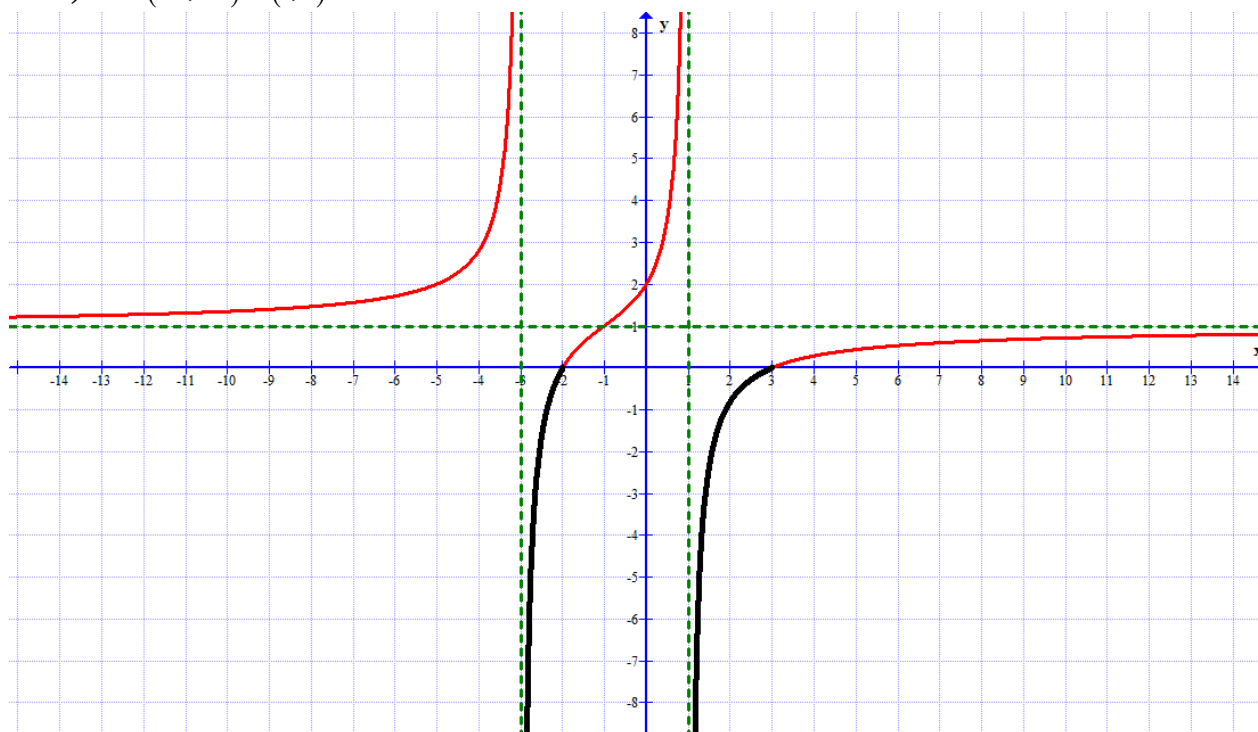
d) $f(x) = \frac{-x^2 - 4x - 4}{x + 3}$ $N: x_{1,2} = -2; P: x_1 = -3; Ak: y = -x - 1; P_{Ak}: \emptyset$



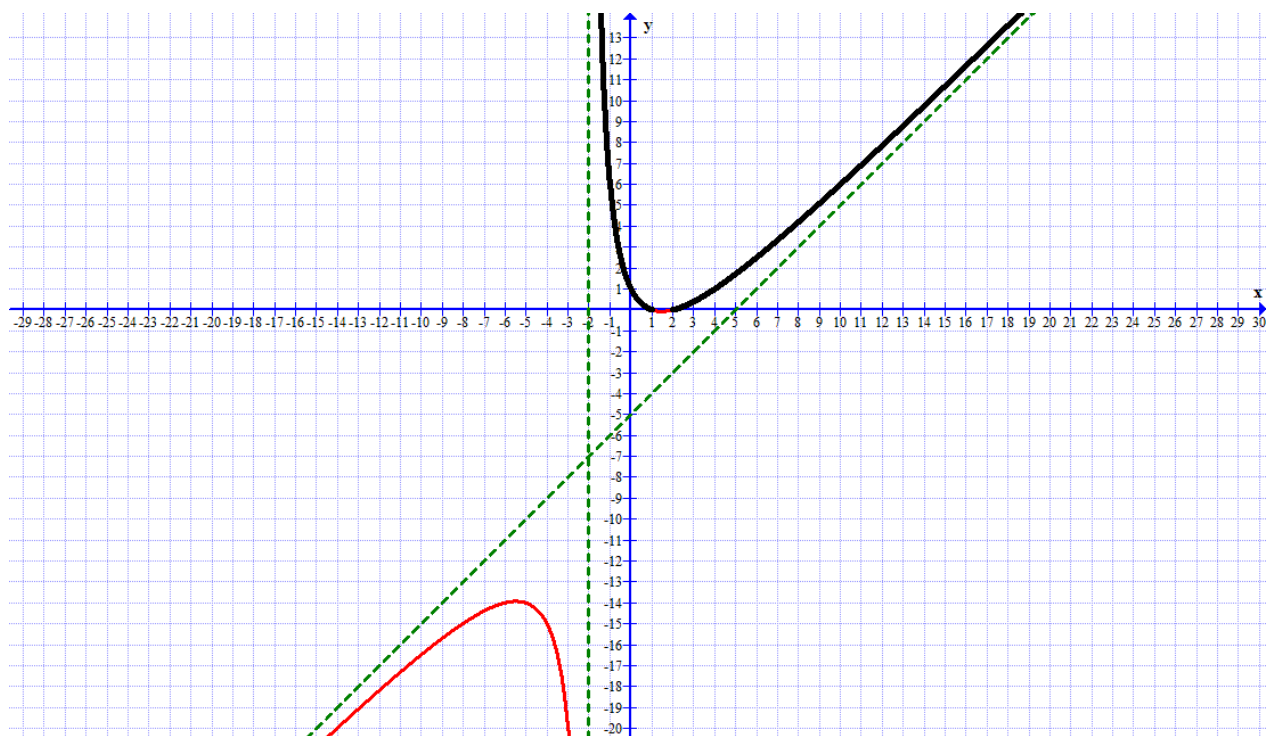
3) a) $x \in (-\infty, -4) \cup (2, +\infty)$



b) $x \in (-3, -2) \cup (1, 3)$



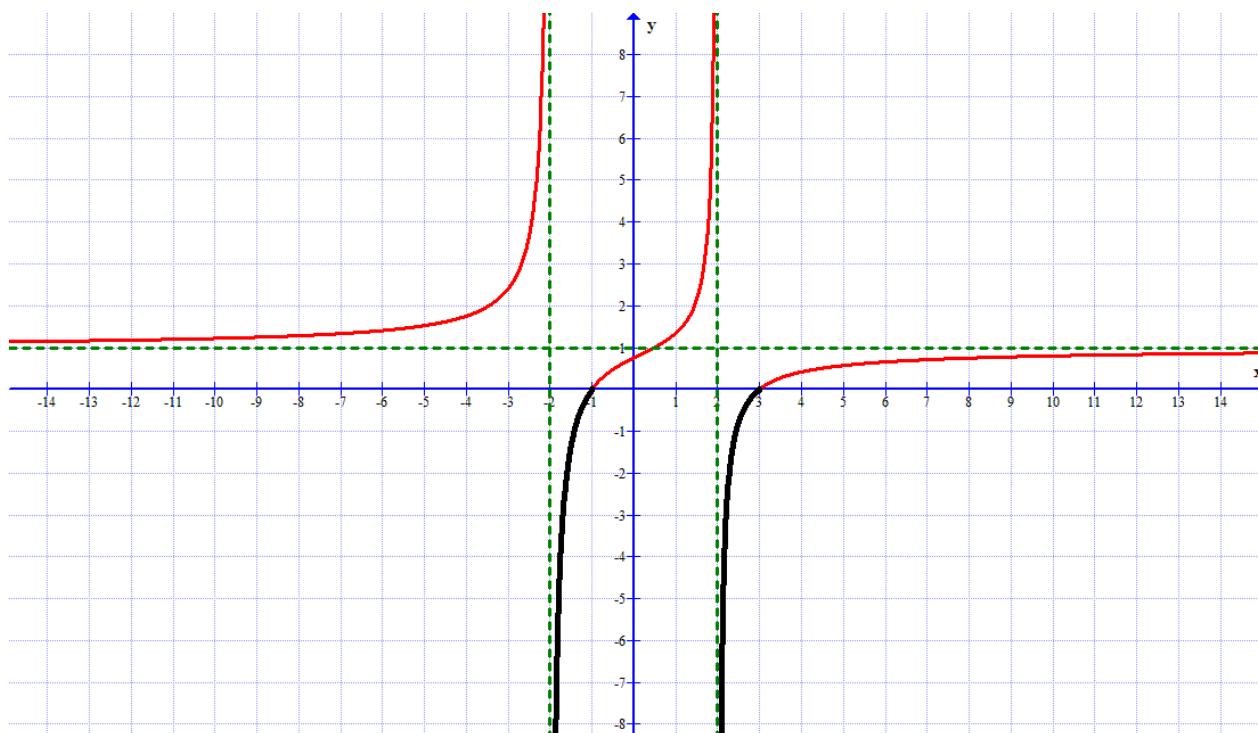
c) $x \in (-2, 1) \cup (2, +\infty)$



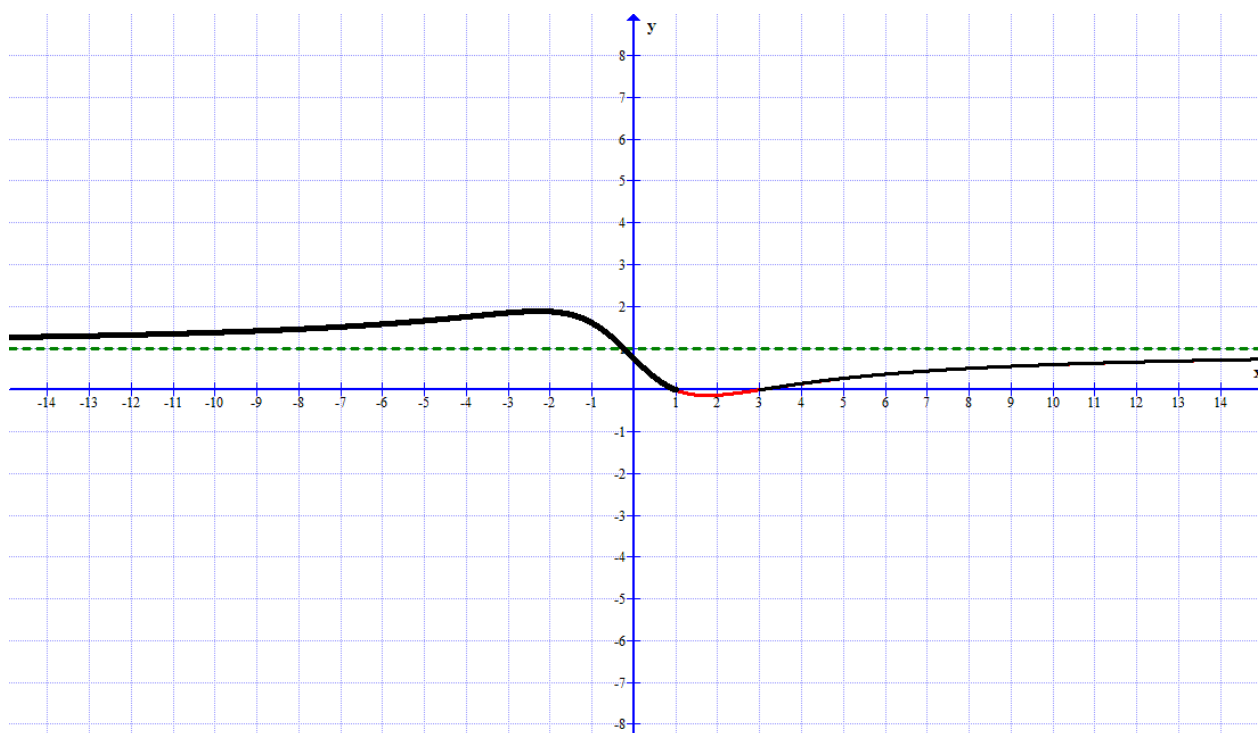
d) $x \in (-\infty, -1) \cup [2, 3)$



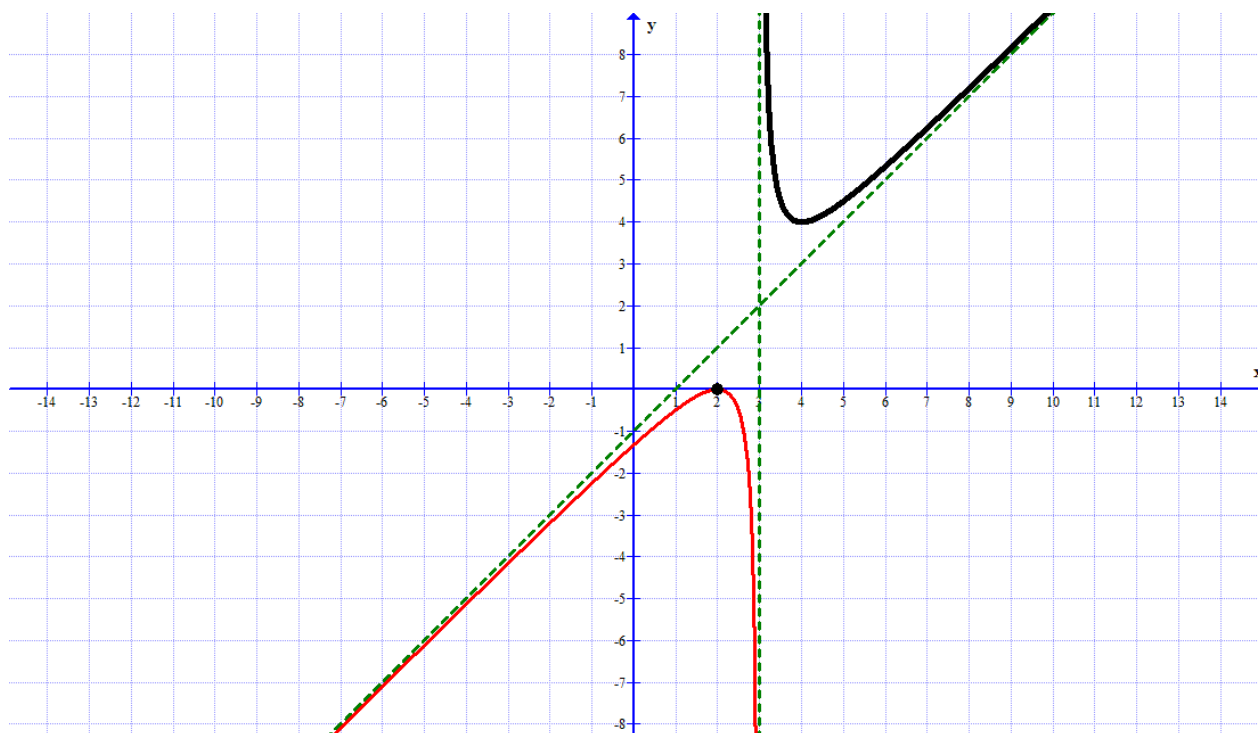
4) a) $x \in (-2, -1) \cup (2, 3)$



b) $x \in (-\infty, 1) \cup (3, +\infty)$

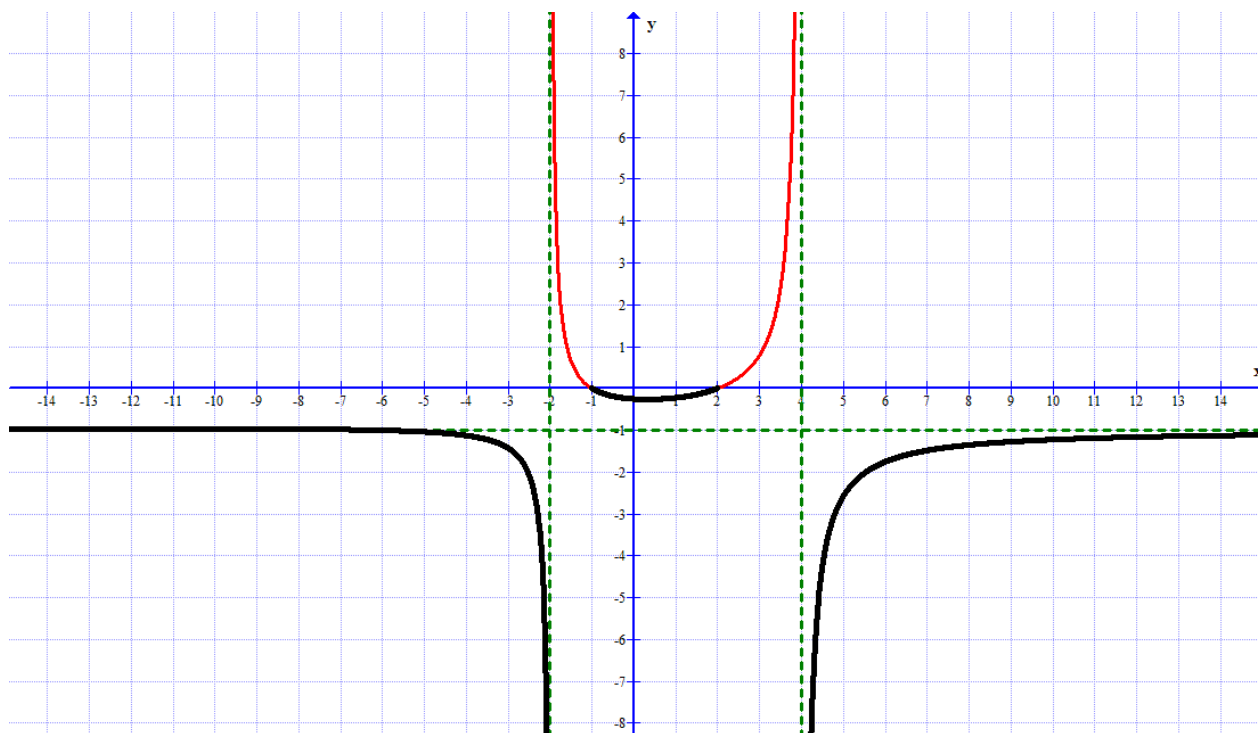


c) $x \in \{2\} \cup (3, +\infty)$



d) $\frac{x^2 - x - 2}{-x^2 + 2x + 8} \leq 0$

$x \in (-\infty, -2) \cup [-1, 2] \cup (4, +\infty)$



- 5) a) $x = 7$
b) $x = 6$
c) $x_1 = 0, x_2 = 4$
d) $x = 2$
- 6) a) $x = 4$
b) $x = 7$
c) $x_1 = 6, x_2 = 13$
d) $x = 5$
- 7) a) $x = 3$
b) $x = 11$
c) $x = 6$
- 8) a) $x = 2$
b) $x = 7$
c) $x = 4$
- 9) a) $x = 8$
b) $x = 3$
c) $x = 7$
d) $x = 5$