

LINEÁRNÍ FUNKCE S ABSOLUTNÍMI HODNOTAMI

1. Vypočítejte:

a) $|-15| + ||2| - |5||$

b) $|6 - 9| - |9 - 6|$

[a) 18; b) 0; c) 0; d) 22.]

c) $|(-5) \cdot (-3)| - |-5| \cdot |-3|$

d) $|7 - 11| + |-11| + |7|$

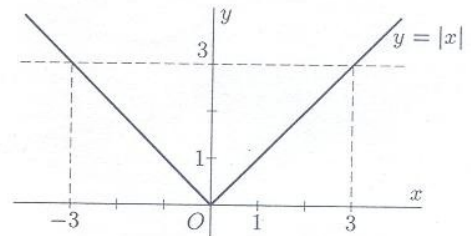
2. S využitím grafu funkce $y = |x|$ řešte následující rovnice a nerovnice:

a) $|x| = 3$

b) $|x| \leq 3$

c) $|x| \geq 3$

[a) $x_1 = 3, x_2 = -3$; b) $x \in \langle -3, 3 \rangle$; c) $x \in (-\infty, -3) \cup (3, +\infty)$.]

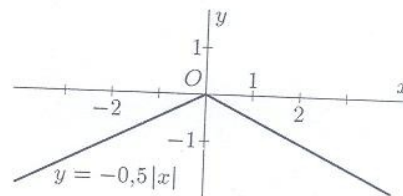
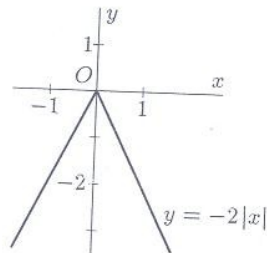
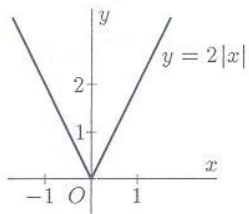


3. Načrtněte grafy funkcí:

a) $y = 2 \cdot |x|$

b) $y = -2 \cdot |x|$

c) $y = -0,5 \cdot |x|$



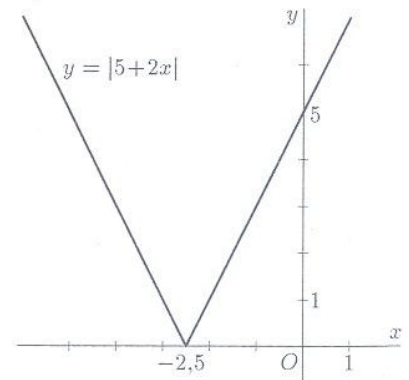
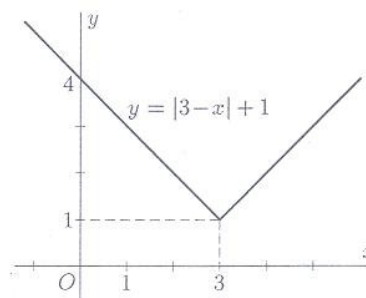
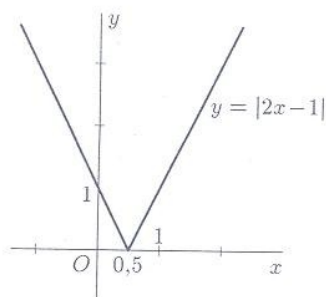
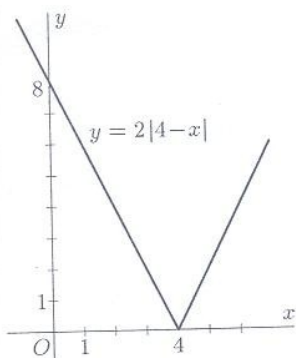
4. Načrtněte grafy funkcí:

a) $y = 2 \cdot |4 - x|$

b) $y = |2x - 1|$

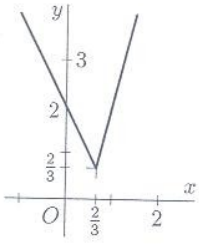
c) $y = |3 - x| + 1$

d) $y = |5 + 2x|$

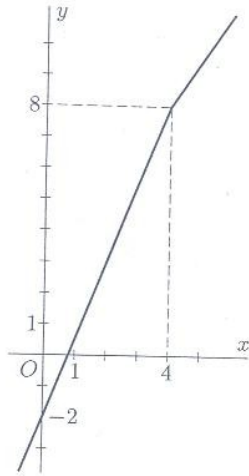


5. Načrtněte grafy funkcí:

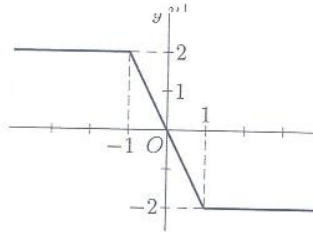
a) $y = x + |2 - 3x|$



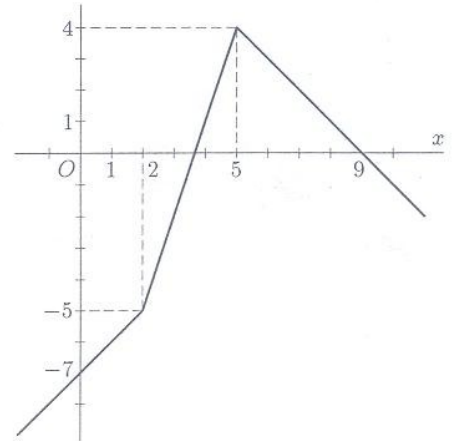
b) $y = 2x - |0,5x - 2|$



c) $y = |x - 1| - |x + 1|$



d) $y = |x - 2| - 2 \cdot |x - 5| + 1$



6. Určete definiční obory funkcí:

a) $f: y = 2x + 3$

b) $f: y = \frac{1}{2x + 3}$

c) $f: y = \sqrt{2x + 3}$

d) $f: y = \frac{1}{\sqrt{2x + 3}}$

e) $f: y = \frac{x + 1}{x^2 - 6x - 16}$

f) $f: y = \sqrt{\frac{x - 5}{x - 1}}$

g) $f: y = \sqrt{x - 2} + \sqrt{5 - x}$

h) $f: y = \frac{\sqrt{x^2 - 4}}{x - 6}$

[a) \mathbb{R} ; b) $\mathbb{R} \setminus \{-\frac{3}{2}\}$; c) $\langle -\frac{3}{2}, +\infty \rangle$; d) $(-\frac{3}{2}, +\infty)$; e) $\mathbb{R} \setminus \{-2, 8\}$; f) $(-\infty, 1) \cup (5, +\infty)$; g) $(2, 5)$; h) $(-\infty, -2) \cup (2, 6) \cup (6, +\infty)$]