

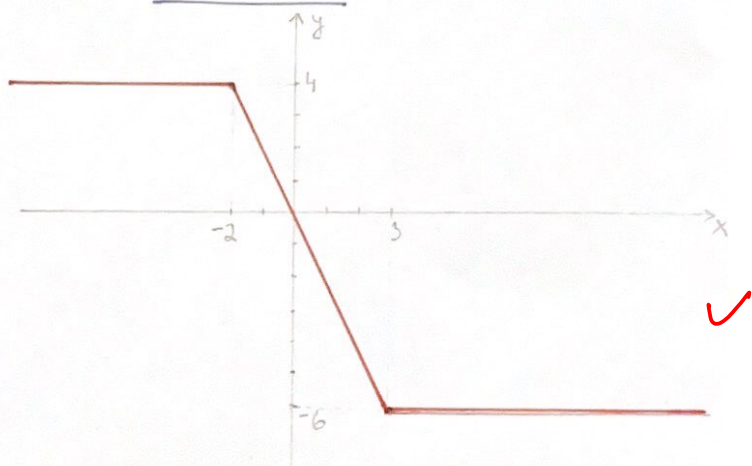
1) $g: \mathbb{R} \rightarrow \mathbb{R}; g(x) = |3-x| - |x+2| - 1$

a) $3-x=0 \quad x+2=0 \rightarrow \text{intervaly: } (-\infty, -2); (-2, 3); (3, \infty)$
 $\quad \underline{x=3} \quad \quad \quad \underline{x=-2}$

$(-\infty, -2)$
 $g(x) = 3-x - [-(x+2)] - 1$
 $g(x) = 3-x+x+2-1$
 $\underline{g(x) = 4} \quad \checkmark$

$(-2, 3)$
 $g(x) = 3-x - (x+2) - 1$
 $g(x) = 3-x-x-2-1$
 $\underline{g(x) = -2x} \quad \checkmark$

$(3, \infty)$
 $g(x) = -(3-x) - (x+2) - 1$
 $g(x) = -3+x-x-2-1$
 $\underline{g(x) = -6} \quad \checkmark$



b) $H(f) \in (-6, 4) \rightarrow \text{lze vidět z grafu} \rightarrow$

$1b$ $2b$

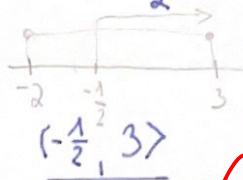
c) funkce g není rostoucí na žádném intervalu, je klesající na $(-2, 3)$ a konstantní na intervalech $(-\infty, -2)$ a $(3, \infty)$ \checkmark

d) $|3-x| - |x+2| - 1 < 1 \rightarrow \text{intervaly } (-\infty, -2); (-2, 3); (3, \infty)$

$x \in (-\infty, -2)$
 $3-x+x+2-1 < 1$
 $4 < 1$
 $\underline{k = \emptyset}$

$x \in (-2, 3)$
 $3-x-x-2-1 < 1$
 $-2x < 1$
 $x > -\frac{1}{2}$

$x \in (3, \infty)$
 $-3+x-x-2-1 < 1$
 $-6 < 1$
 $x \in \mathbb{R}$
 $\underline{(3, \infty)}$



$\underline{x \in (-\frac{1}{2}, \infty)}$ \checkmark

$\text{Celkem } 5b$