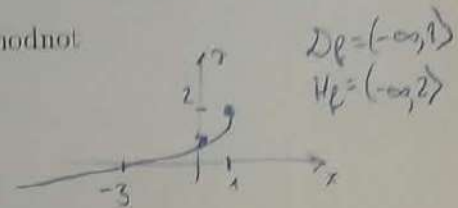


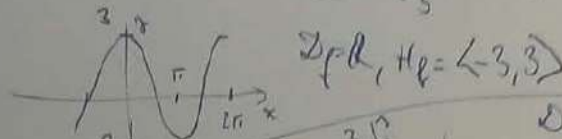
3. série

1. Načrtněte grafy funkcí, určete definiční obor a obor hodnot

(a) $f(x) = 2 - \sqrt{1-x}$,

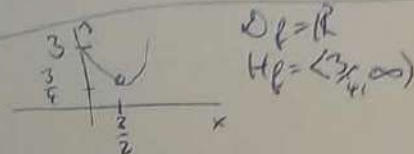


(b) $g(x) = 3 \sin\left(\frac{\pi}{2} + x\right)$,

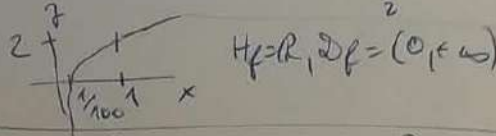


(c) $h(x) = x^2 - 3x + 3$,

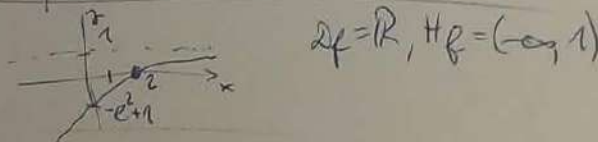
$$= x^2 - 2 \cdot \frac{3}{2}x + \frac{9}{4} + \frac{3}{4} = \left(x - \frac{3}{2}\right)^2 + \frac{3}{4}$$



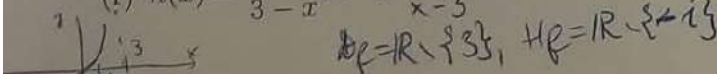
(d) $f(x) = 2 + \log x$,



(e) $g(x) = 1 - e^{2-x}$,

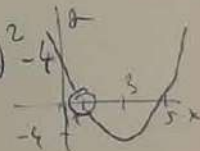


(f) $h(x) = \frac{x-1}{3-x} = -1 - \frac{2}{x-3}$

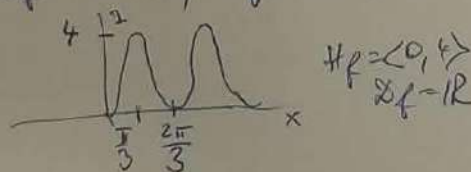


(g) $f(x) = \frac{x^3 - 7x^2 + 11x - 5}{x-1} = x^2 - 6x + 5 = (x-1)(x-5) = (x-3)^2 - 4$

$D_f = \mathbb{R} \setminus \{1\}, H_f = [-4, \infty)$



(h) $g(x) = 2 - 2 \cos(3x)$,



(i) $h(x) = |1 + \tan x|$,

2. Určete hodnoty

(a) $\sin\left(\frac{5\pi}{3}\right) = -\frac{\sqrt{3}}{2}$

(b) $\cos\left(\frac{3\pi}{2}\right) = 0$

(c) $\operatorname{tg}\left(\frac{5\pi}{6}\right) = -\frac{\sqrt{3}}{3}$

(d) $\operatorname{cotg}\left(\frac{5\pi}{2}\right) = 0$

(e) $\cos\left(\frac{7\pi}{6}\right) = -\frac{\sqrt{3}}{2}$

(f) $\cos(3\pi) = -1$

(g) $\sin\left(\frac{7\pi}{2}\right) = -1$

