

ESERCIZI SULLE FUNZIONI

A) CALCOLARE IL DOMINIO DELLE SEGUENTI FUNZIONI

1) $y = \frac{x-5}{5-x^2}$ 2) $y = \log(\sqrt{x}+2)$ 3) $y = \log x - \log(1+2x)$

4) $y = \frac{2}{x^2+x+1}$ 5) $y = \frac{\log x}{x^2-6x+9}$ 6) $y = \sqrt{\frac{4x-1}{2}}$ 7) $y = e^{\frac{1}{2x}}$

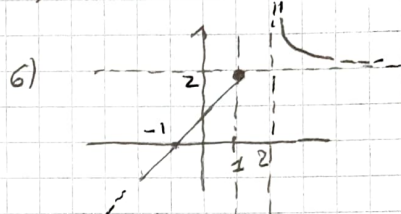
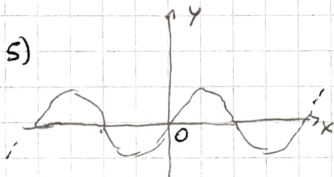
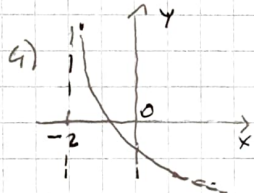
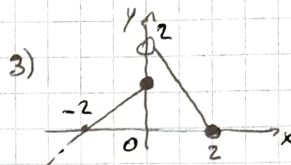
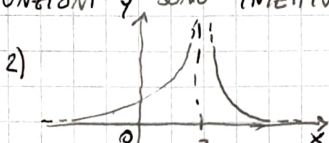
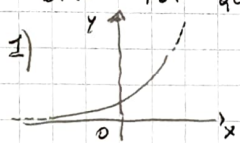
B) DETERMINARE EVENTUALI PARITÀ O DISPARITÀ DELLE SEGUENTI FUNZIONI

1) $f(x) = x^2 + x^4 - x^8$ 2) $y = -2x^5 - x$ 3) $y = \frac{5x^3 + 2x}{x^2}$

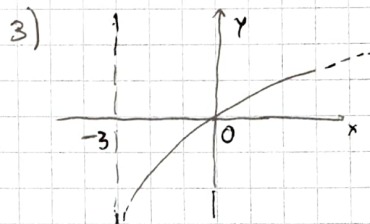
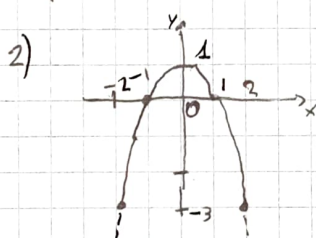
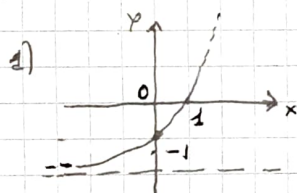
4) $f(x) = \log(x^2+1)$ 5) $f(x) = x^2 - \cos x$ 6) $y = \frac{x^2+x+1}{x^4}$

7) $y = |x| - x^2$ 8) $y = |\log x| - x^2$

C) SCRIVERE IL DOMINIO DELLE SEGUENTI FUNZIONI (DEBURLO DAL GRAFICO). DIRE POI QUALI FUNZIONI Y SONO INIETTIVE.



D) PER CIASCUNA FUNZIONE f(x) TRACCIARE f(x)+1, f(x+1), |f(x)|



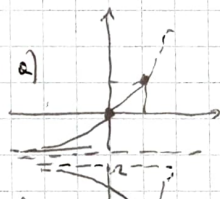
SOLUZIONI

- A) 1) $5-x^2 \neq 0 \Rightarrow (-\infty, -2] \cup [-2, 2] \cup [2, +\infty)$
 2) $\sqrt{x}+2 > 0 \Rightarrow \forall x \in (-\infty, +\infty)$
 3) $\begin{cases} x > 0 \\ 1+2x > 0 \end{cases} \Rightarrow \begin{cases} x > 0 \\ x > -\frac{1}{2} \end{cases} \Rightarrow (0, +\infty)$
 4) $x^2+x+1 \neq 0 \Rightarrow \forall x \in (-\infty, +\infty)$
 5) $\begin{cases} x > 0 \\ (x-3)^2 \neq 0 \end{cases} \Rightarrow \begin{cases} x > 0 \\ x \neq 3 \end{cases} \Rightarrow (0, 3) \cup (3, +\infty)$
 6) $4x-1 \geq 0 \Rightarrow x \geq \frac{1}{4} \Rightarrow [\frac{1}{4}, +\infty)$
 7) $x \neq 0 \Rightarrow (-\infty, 0) \cup (0, +\infty)$

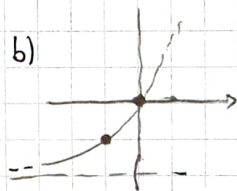
B) PARI: 1, 4, 5, 7 DISP: 2, 3, 6, 8

- C) 1) $(-\infty, +\infty)$ si
 2) $(-\infty, 2] \cup (2, +\infty)$ no
 3) $(-\infty, 2]$ no
 4) $(-2, +\infty)$ si
 5) $(-\infty, +\infty)$ no
 6) $(-\infty, 1] \cup (2, +\infty)$ si

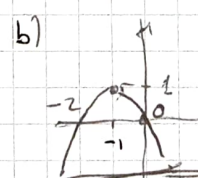
D) 1) a)



b)



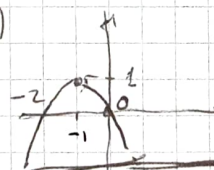
c)



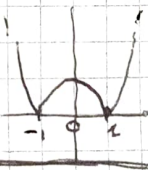
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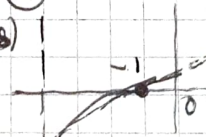
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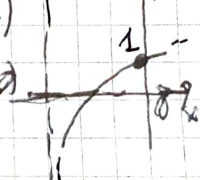
c)



3) a)



b)



c)

