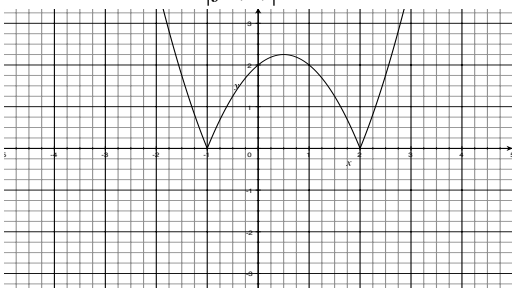
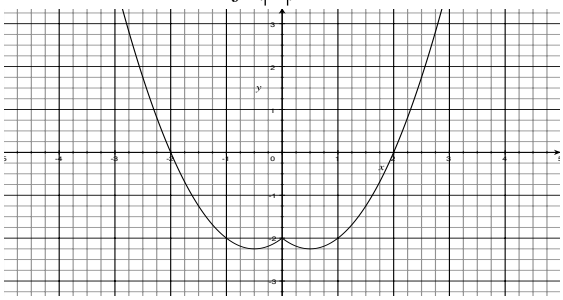
ESERCIZI FUNZIONI (I° - II° VAL ASS)

1. $\dfrac{x-1-\sqrt{x^2-2x-1}}{x-2}>0$ $\quad\left[x>1+\sqrt{2}\right]$
2. $\sqrt{|x-1|}+\sqrt{x^2-x}\le 0$ $\quad[x=1]$
3. $\sqrt{\left|\dfrac{1}{x}-2\right|}\le\dfrac{1}{|x|}$ $\quad[x=1]$
4. $1-|x^2-2x|<0$ $\quad\left[x<1-\sqrt{2}\vee x>1+\sqrt{2}\right]$
5. $\sqrt{x^2+|x-2|}>x+|x|$ $\quad\left[0\le x\le\dfrac{2}{3}\right]$
6. $|x|-2|x+3|>2$ $\quad\left[-4<x<-\dfrac{8}{3}\right]$
7. Data la funzione $f(x)=x^2-x-2$
   a. Tracciare il grafico della funzione $|f(x)|$.



   b. Tracciare il grafico della funzione $f(|x|)$.



8. $\left|\dfrac{x^2-1}{2x+1}\right|<1.$ $\quad\left[-2<x<1-\sqrt{3}\vee 0<x<1+\sqrt{3}\right]$
9. $\dfrac{3x-4x^2}{|x-2|}<1.$ $\quad[x<2]$

10. $2x+1<\sqrt{4x^2-4x-15}$. $\left[x\le -\frac{3}{2}\right]$

11. $\frac{\sqrt{x^2-1}-|x+1|}{x^2-2x-3}\le 0$. $\left[x>3\right]$

12. $\frac{|x|+\sqrt{1-x^2}}{|x|-\sqrt{1-x^2}}<0$. $\left[-\frac{1}{\sqrt{2}}<x<\frac{1}{\sqrt{2}}\right]$