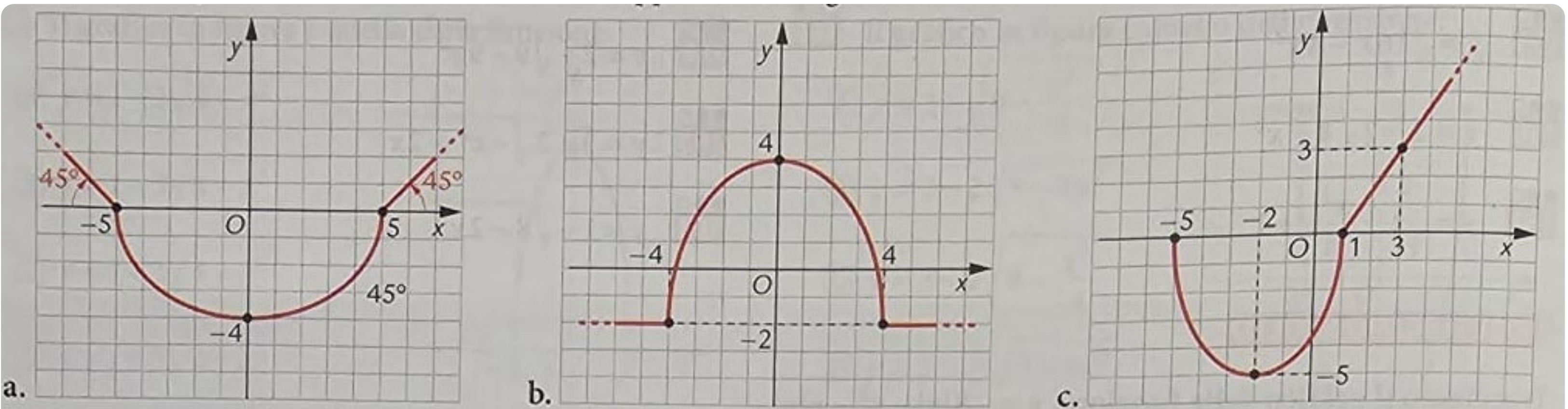
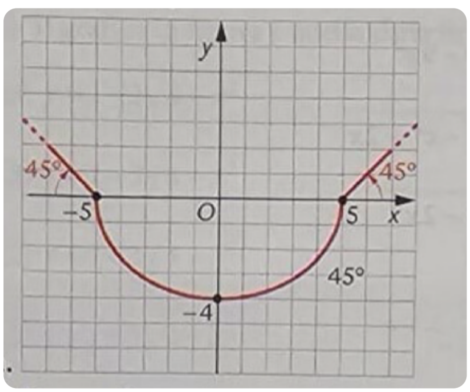
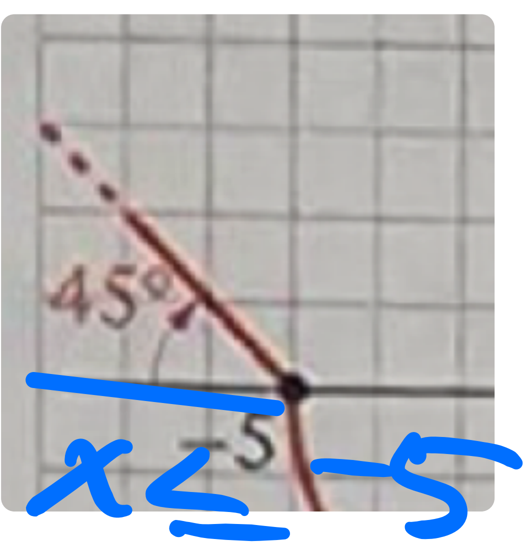


[a. $y=\begin{cases} -x-5 & x<-5 \\ -\frac{4}{5}\sqrt{25-x^2} & -5\le x\le 5 \\ x-5 & x>5 \end{cases}$; b. $y=\begin{cases} -2 & x<-4 \\ \frac{3}{2}\sqrt{16-x^2}-2 & -4\le x\le 4 \\ -2 & x>4 \end{cases}$; c. $y=\begin{cases} -\frac{5}{3}\sqrt{5-4x-x^2} & -5\le x\le 1 \\ \frac{3}{2}(x-1) & x>1 \end{cases}$]





per $x \le -5$

retta //

bisettr. 2° e

4° quadr.,

di eq. $y=-x$

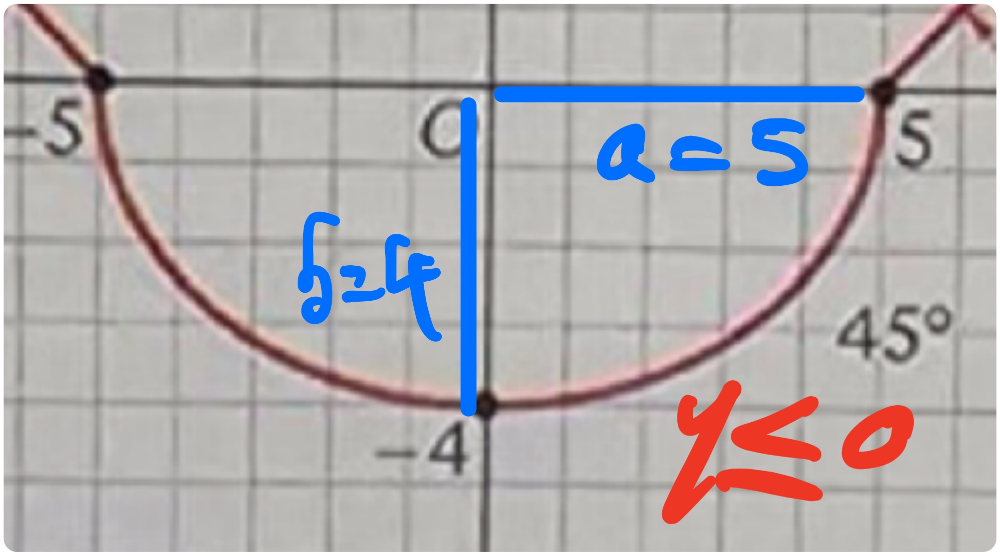
e passa per $(-5,0)$

$\Rightarrow y = -(x+5)$

$\Rightarrow y = -x-5$

$\Rightarrow$ se $x \leq -5$

l'eq. è $y = -x-5$



In $-5 \leq x \leq 5$ la curva appartiene all'ellisse avente centro in O e semiassi $a=5$ e $b=4$

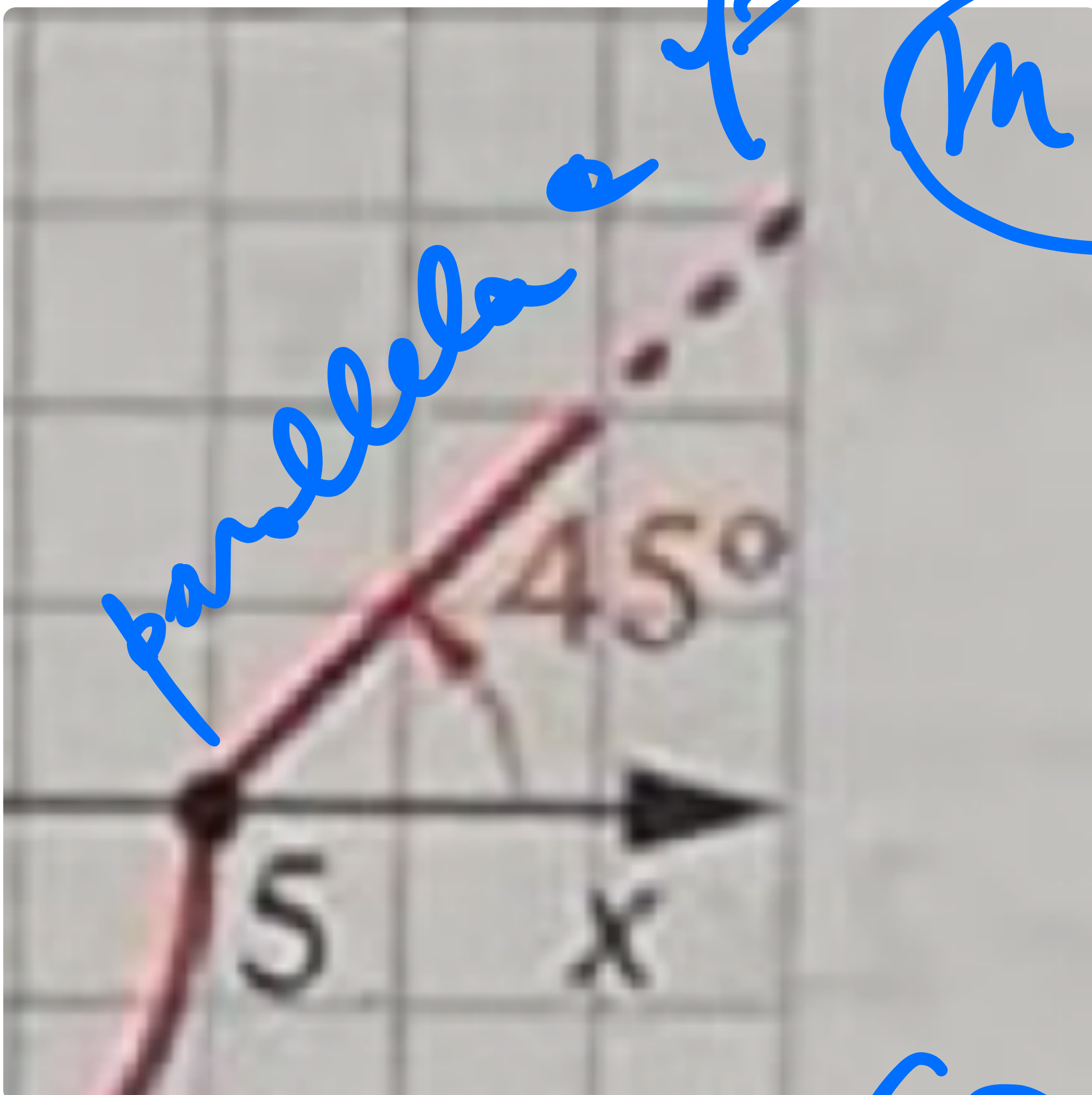
$$\Rightarrow \frac{x^2}{25} + \frac{y^2}{16} = 1$$

$$y^2 = \frac{16}{25}(25-x^2)$$

$$y = \pm \frac{4}{5}\sqrt{25-x^2}$$

la curva richiesta ha equaz.

$$\begin{cases} -5 \le x \le 5 \\ y = -\frac{4}{5}\sqrt{25-x^2} \end{cases}$$



parallela a $y = x$

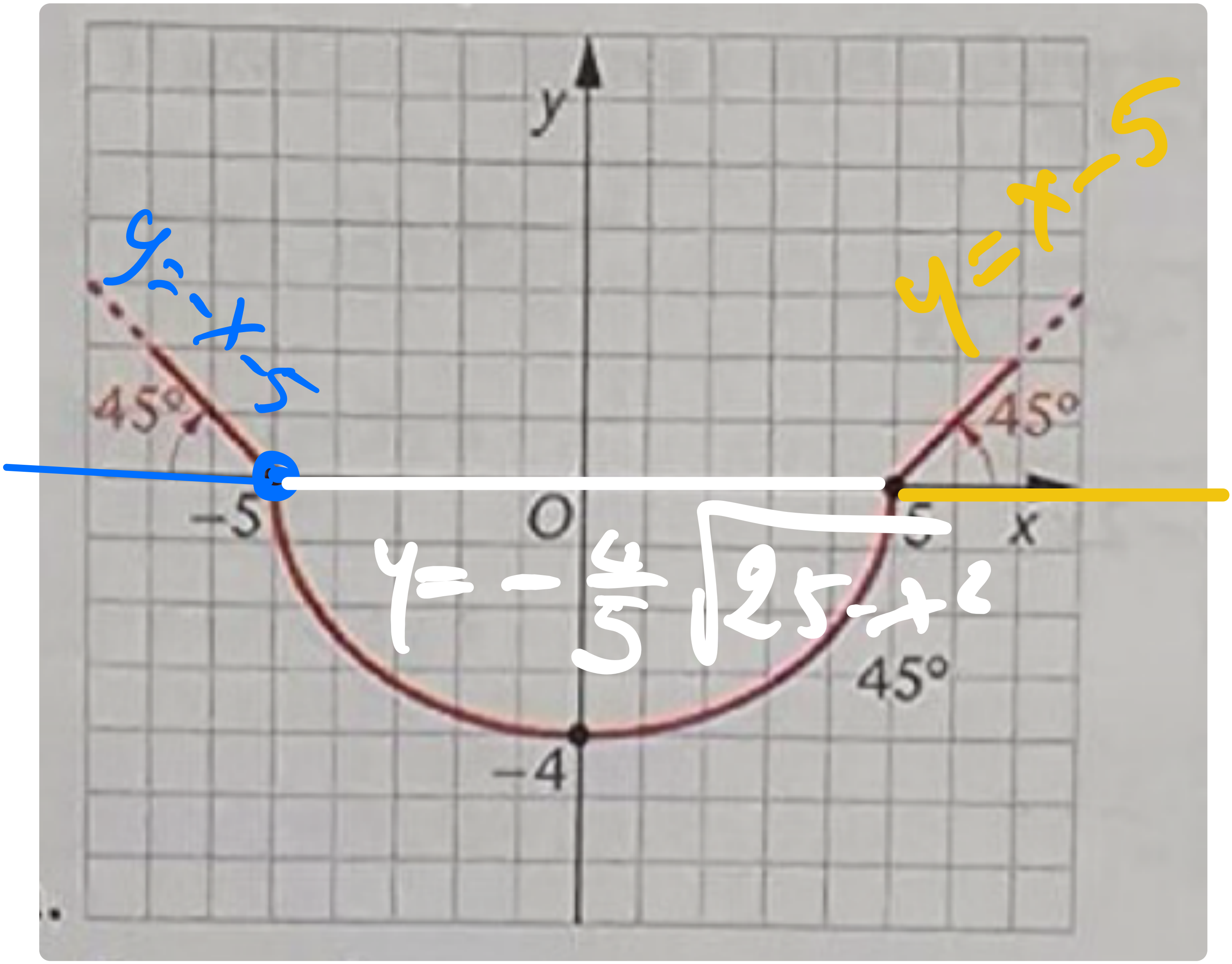
$m = 1$

passa per $(5,0)$

$\Rightarrow y = x - 5$

per $x \geq 5$

La funzione è continua in $\mathbb{R}$, quindi anche nei punti -5 e 5, dove cambia l'espressione analitica, il segno di uguaglianza può essere riferito ad una qualsiasi delle funzioni che convergono in quel punto.


y
x
O
−5
5
−4
45°
45°
45°
y = −x − 5
y = x − 5
y = −4/5 √(25 − x²)

In definitiva:

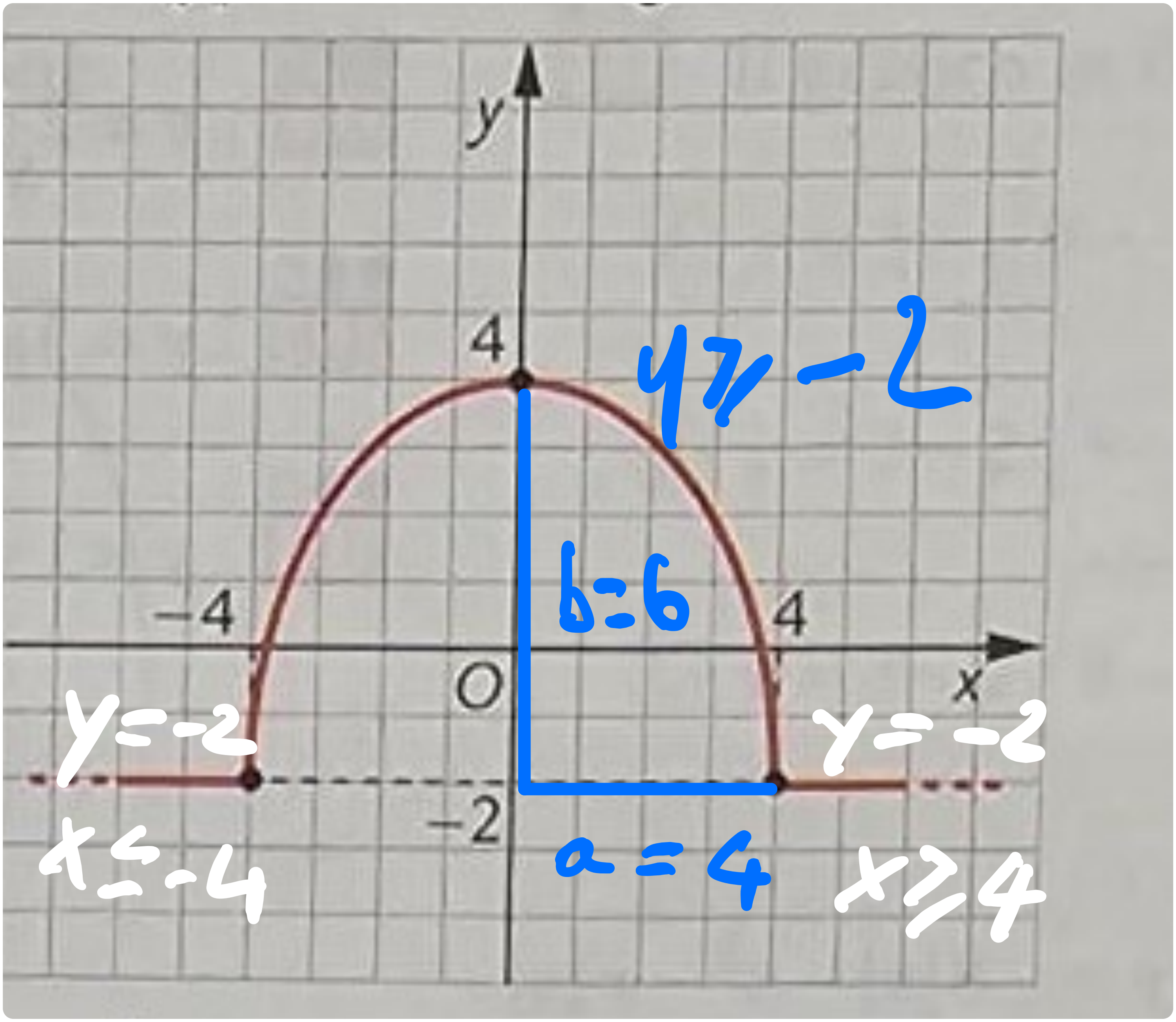
$$y=\begin{cases} -x-5, & x \le 5 \\ -\frac{4}{5}\sqrt{25-x^2}, & -5<x<5 \\ x+5, & x \ge 5 \end{cases}$$

OPPURE

In definitiva:

$$y=\begin{cases} -x-5, & x < 5 \\ -\frac{4}{5}\sqrt{25-x^2}, & -5 \le x \le 5 \\ x+5, & x > 5 \end{cases}$$

ecc ...



In $-4<x<4$:
Ellisse avente il centro in $(0,-2)$ e semiassi $a=4$, $b=6$

Eq. $\dfrac{x^2}{16} + \dfrac{(y+2)^2}{36} = 1$

Ricava y. Trovi

$$y = -2 \pm \sqrt{\ldots}$$

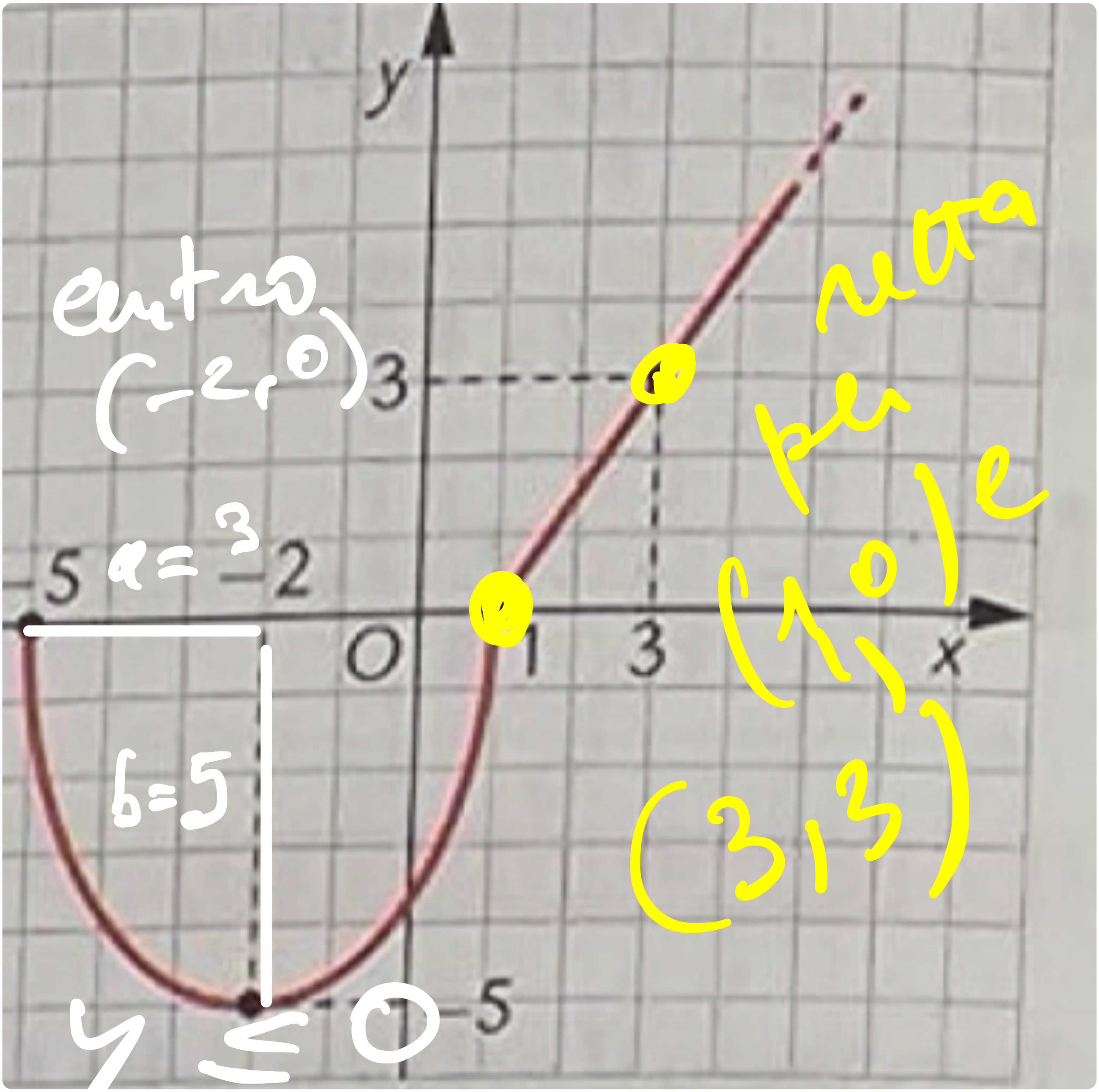
Prendi i valori

≥ -2, quindi

$$y = -2 + \sqrt{\ldots}$$

Quintic

$$y = \begin{cases} -2, & x \le 4 \\ -2 + \dots \dots, & \dots x \dots \\ \dots \dots, & x \geq 4 \end{cases}$$



y
x
3
-5
-2
O
1
3
-5
centro
(-2,0)
a=3
b=5
y ≤ 0
retta
per
(1,0) e
(3,3)

$$-5 \le x \le 1$$

$$\frac{(x+2)^2}{9} + \frac{y^2}{25} = 1$$

$$y = \pm\sqrt{\ldots}$$

Punti $y = -\sqrt{\ldots}$

$x > 1$:

$$m = \frac{3-0}{3-1} = \frac{3}{2}$$

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

Q uiuoh'

$$y = \begin{cases} -\sqrt{\cdots}\;\cdots & , \cdots x \cdots \\ \frac{3}{2}(x-1), & x \ldots \end{cases}$$