

Graph the system.

$$x + y \leq 7$$

$$5x - 2y \leq 10$$

Right of y-axis $\rightarrow x \geq 0$
 Above x-axis $\rightarrow y \geq 0$

$$x + y \leq 7$$

x	y
0	7
7	0

Test (0,0)

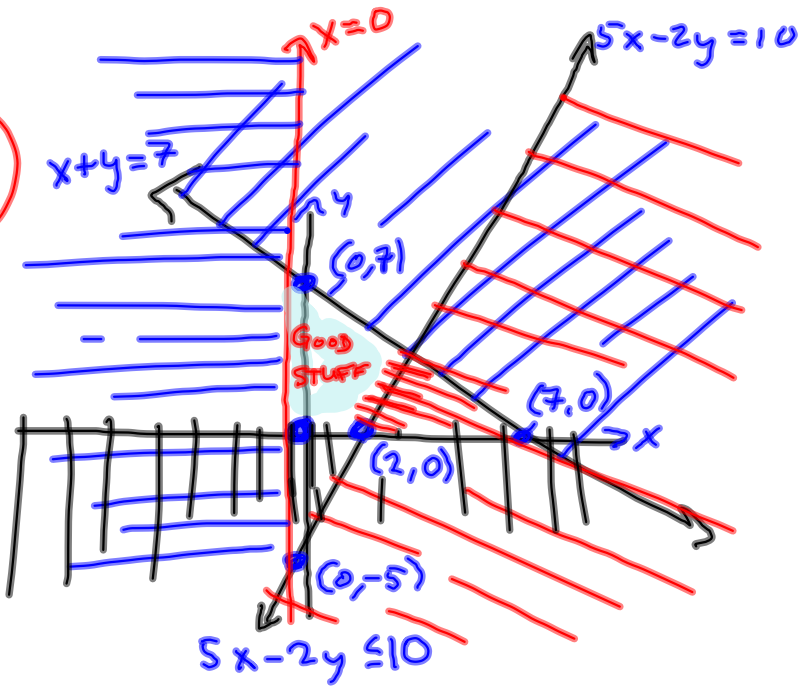
$$0 + 0 \leq 7?$$

Yes (0,0) Good

$x \geq 0 \rightarrow$ Right of y-axis

$y \geq 0 \rightarrow$ Above x-axis.

Everything is in 1st quadrant.



x	y
0	-5
2	0

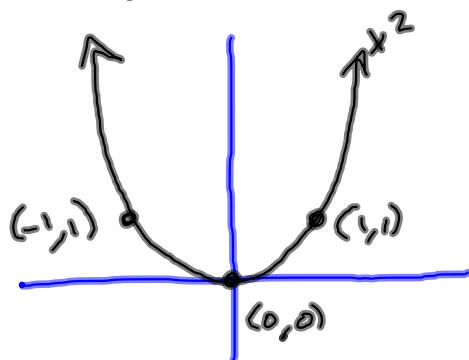
(0,0):

$$5(0) - 2(0) \leq 10?$$

$0 \leq 10?$ Yes
 (0,0) good

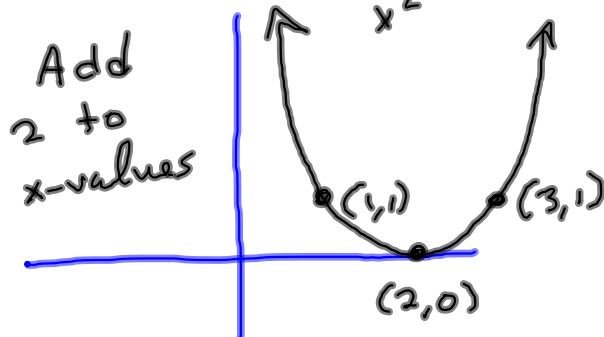
Graph $g(x) = (x-2)^2 + 1$ by transforming

$f(x) = x^2$



$f(x) = x^2$

$f(x-2) = (x-2)^2$
RIGHT 2 (delay)



Add 2 to x-values

$f(x-2) = (x-2)^2$

$f(x-2) + 1$ ↑ up 1
Add 1 to y-values.



$f(x-2) + 1 = (x-2)^2 + 1$

$f(x-2)$ right 2 } inside f
 $f(x+2)$ left 2 }

$f(x) + 2$ up 2 } outside f
 $f(x) - 2$ down 2 }

$$(a+b)(a-b) = a^2 - b^2$$

$$(\sqrt{6} + 2i)(\sqrt{6} - 2i)$$

$$\left[(a+bi)(a-bi) = a^2 - (bi)^2 = a^2 - b^2i^2 = \underline{a^2 + b^2} \right.$$

→ From above $i^2 = -1$

$$(\sqrt{6})^2 + 2^2 = 6 + 4 = 10$$