

InEQ Reflection

1a) $x > 4$, $x = 5$, $x = 10$, $x = 2\pi$

b) $x \leq 2$, $x = 0$, $x = -\pi$, $x = -123456$

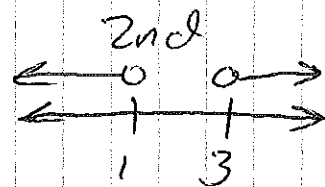
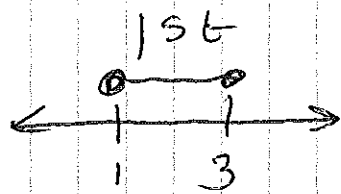
c) $1 < x \leq 3$, $x = 2$, $x = 3$, $x = \pi/2$

2) $1 < x < 3$ does not include $x = 1$ & $x = 3$.
 $1 \leq x \leq 3$ does include 1 & 3.

The difference is open vs. closed circles.

3) The first inequality wants numbers between 1 & 3. The other inequalities say the same thing, in 2 parts.

4) The first inequality wants numbers between 1 & 3. The second wants numbers outside of 1 & 3.

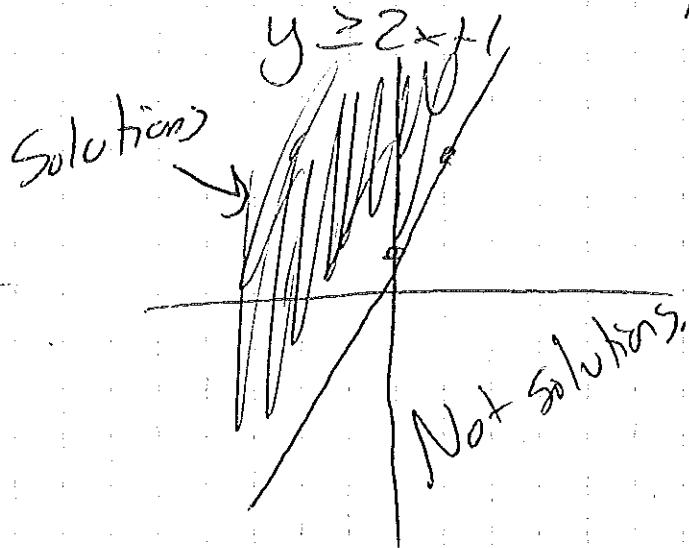
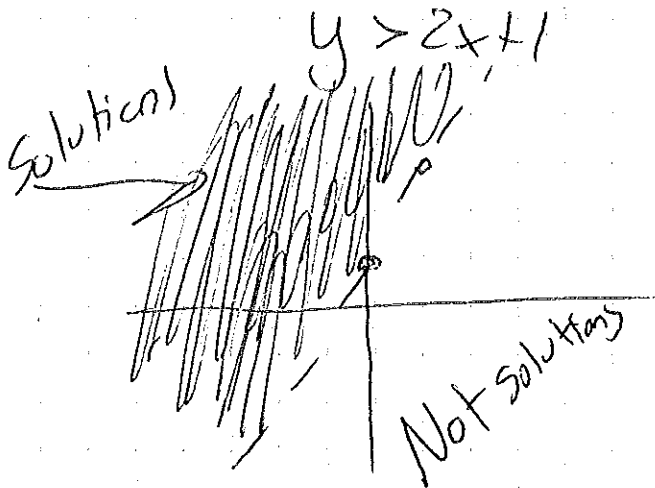


5) $y = 2x + 1$ (0, 1), (1, 3), (2, 5)

6) No. Because $y = 2x + 1$, y can't be greater than $2x + 1$.
"Equals" is different than "greater than"

7) Yes. IF $y > 2x+1$, then $y \geq 2x+1$.
"Greater than" implies "greater than or equal to."
" $>$ " \longrightarrow " \geq "

8) The inequality $y > 2x+1$ does not include the points $y = 2x+1$. Thus you should draw the line as a dashed line (like an open circle)

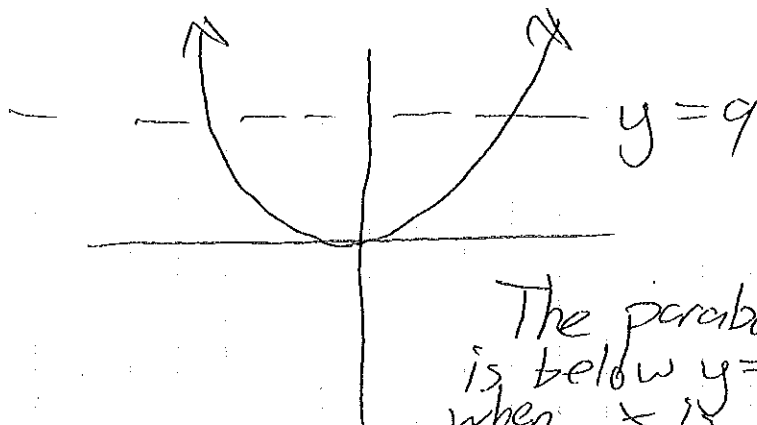


9) $y \geq 2x+1$ includes the line AND every point above the line. $y < 2x+1$ includes only the points below the line (But not the line)

10) $y \geq 2x+1$ is everything above OR on the line.
 $2x+1 \leq y \leq 2x+3$ is everything between the lines.

$$11) x^2 < 9$$

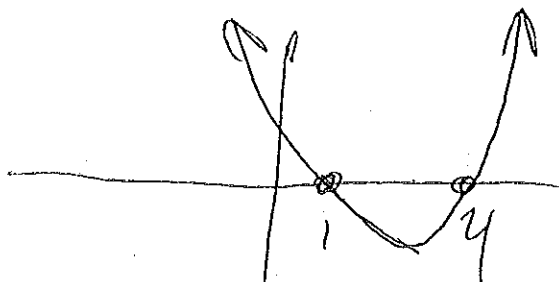
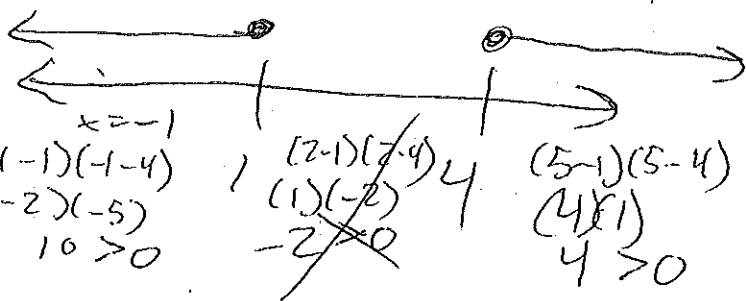
$$-3 < x < 3$$



The parabola is below $y=9$ when x is between -3 & 3 .

$$12) (x-1)(x-4) \geq 0$$

$$x=1 \quad x=4$$



The parabola is above $y=0$ outside of $1 < x < 4$.

13) $y > x^2$ includes all points above the parabola but not the parabola.

$y \leq x^2$ includes all points below the parabola AND the parabola

