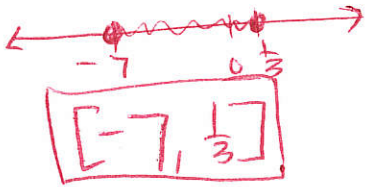


1-2. Solve each inequality algebraically.

1. $(3x - 1)(x + 7) \leq 0$
 $3x - 1 = 0$ $x + 7 = 0$
 $x = \frac{1}{3}$ $x = -7$

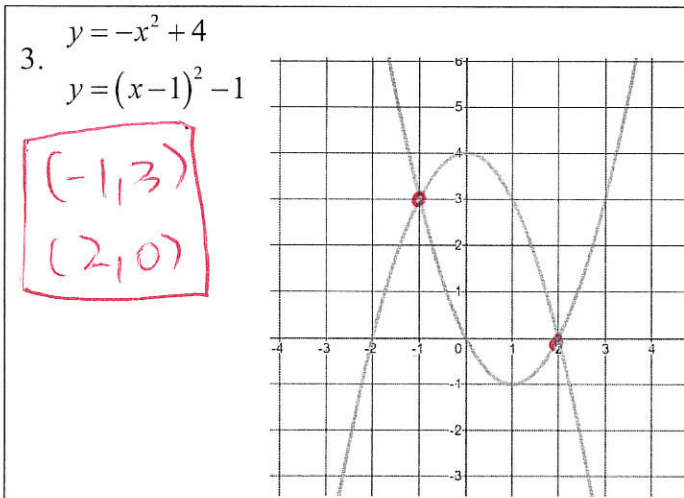


2. $x^2 + 5x - 36 > 0$
 $-36 > 0$ false
 $9 \uparrow -4$

$(x + 9)(x - 4) = 0$
 $x = -9, x = 4$

$(-\infty, -9) \cup (4, \infty)$

3-6. Solve each system of equations.



4. $x - y = -1 + y$ $x + 1 = y$
 $y = x^2 + 1$

$x + 1 = x^2 + 1$
 $-x - 1 = -x - 1$

$0 = x^2 - x$
 $x(x - 1) = 0$
 $x = 0$ $x - 1 = 0$
 $x = 1$

$y = 0^2 + 1 = 1$ $y = 1^2 + 1 = 2$

$(1, 2)$
 $(0, 1)$

5. $y = x^2 + 4x + 5$
 $y = x^2 + 2x - 1$

$x^2 + 4x + 5 = x^2 + 2x - 1$
 $-x^2 - 2x + 1 = -x^2 - 2x + 1$

$2x + 6 = 0$
 $2x = -6$
 $x = -3$

$y = (-3)^2 + 4(-3) + 5$
 $9 - 12 + 5$
 $-3 + 5$
 2

$(-3, 2)$

6. $x + y = 2$ $y = 2 - x$
 $y = x^2 - 4$

$2 - x = x^2 - 4 + x - 2$
 $-2 + x = x^2 - 4 + x - 2$

$x^2 + x - 6 = 0$
 $(x - 2)(x + 3) = 0$
 $x = 2, x = -3$

$y = 2 - 2 = 0$ $y = 2 - (-3) = 5$

$(2, 0)$
 $(-3, 5)$