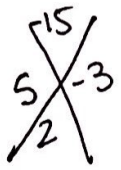


LT #8: Quadratic Systems.

Solve by region testing and graph the following quadratic inequality on a number line. Show all work! Write your answer in set notation. (4 pts)



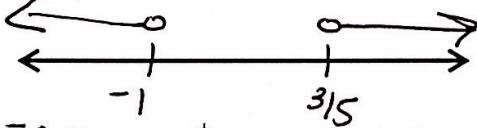
1. $5x^2 + 2x - 3 > 0$

$(x + \frac{5}{5})(x - \frac{3}{5}) > 0$

- 1) Factor
- 2) Solve

$(x+1)(5x-3) > 0$

$x = -1, x = 3/5$



2. Solve the system of quadratics using substitution. (4 pts)

$y = x^2 - 2x - 3$ $2x - 3 = x^2 - 2x - 3$

$y = 2x - 3$

$y = 2(0) - 3$

$y = -3$

$0 = x^2 - 4x$

$0 = x(x - 4)$

$x = 0, x = 4$

$y = 2(4) - 3$

$= 8 - 3$

$= 5$

LT #6: Quadratic Formula

For #4-5, find the value of the discriminant (showing your work!). Then circle whether the function will have one, two, or no real solutions. (3 pts each)

$b^2 - 4ac$

3. $y = x^2 + 5x + 8$

$(5)^2 - 4(1)(8)$

$25 - 32$

-7 +2

Solve by the quadratic formula (4 pts each)

5. $3x^2 + 5x - 2 = 0$

$x = \frac{-5 \pm \sqrt{5^2 - 4(3)(-2)}}{2(3)} = \frac{-5 \pm \sqrt{25 + 24}}{6}$

$= \frac{-5 \pm \sqrt{49}}{6}$

$= \frac{-5 \pm 7}{6}$

$\frac{-5+7}{6} = \frac{2}{6}$

$\frac{-5-7}{6} = \frac{-12}{6}$

6. $x^2 + 4x - 3 = 0$
 $x = \frac{-4 \pm \sqrt{16 - 4(1)(-3)}}{2(1)}$ +1

$x = \frac{-4 \pm \sqrt{16+12}}{2} = \frac{-4 \pm \sqrt{28}}{2} = \frac{-4 \pm 2\sqrt{7}}{2}$ +1

3. -7

Circle one:

- One Sol.
- Two Sol.
- No Sol.

4. 9

Circle one:

- One Sol.
- Two Sol.
- No Sol.

5. $\frac{1}{3}, -2$ +1

6. $-2 \pm \sqrt{7}$ +1

18

14