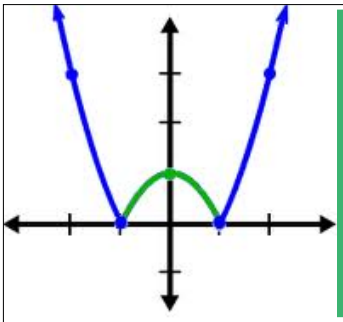
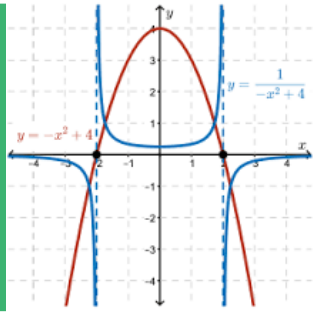


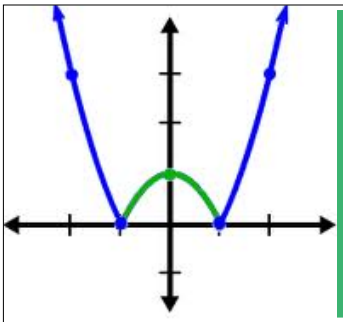
Unit 5: Absolute Values, Reciprocals, Systems, Inequalities

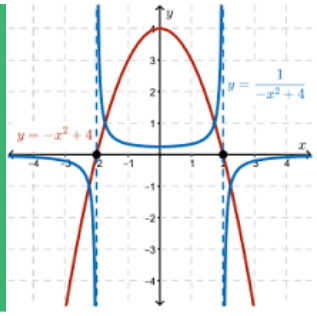


5.4 Solving Systems Graphically

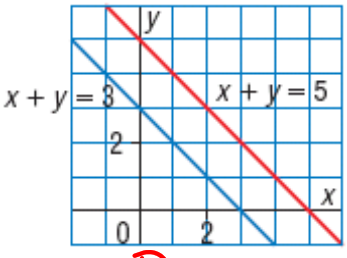
When solving systems of equations graphically, you must show the equations you enter in your calculator (y_1 and y_2) and a sketch.

Recall Math 10C: The solution(s) to a system of equations is/are the point(s) of intersection (ie. the points that satisfy both equations.)

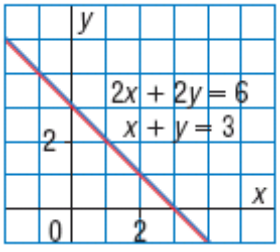




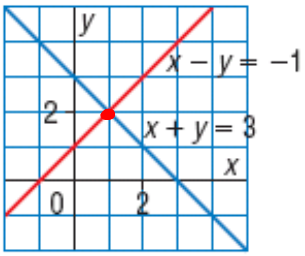
Numbers of Solutions: Intersection points
Systems of Linear Equations



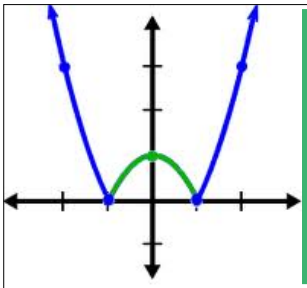
0 sol'n

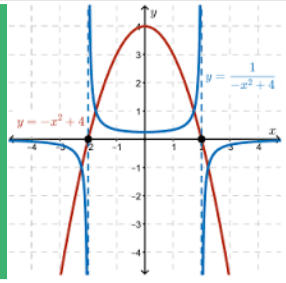


∞ sol'n

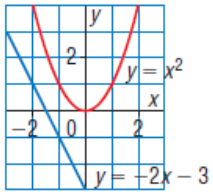


1 sol'n

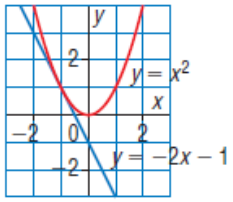




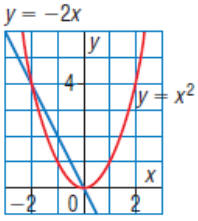
Determining the numbers of Solutions:
Linear-Quadratic Systems



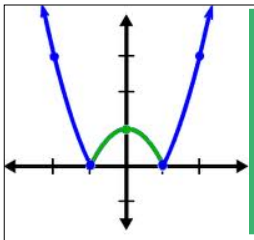
0 soln

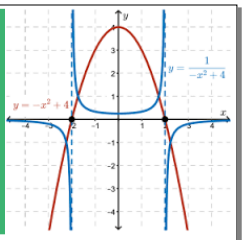


1 soln
"tangent point"

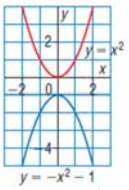


2 soln

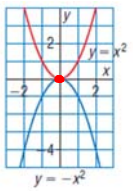




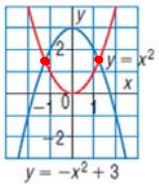
Determining the numbers of Solutions:
Quadratic-Quadratic System



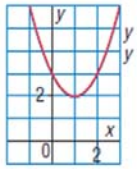
0 sol'n



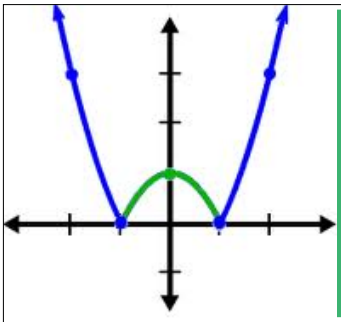
1 sol'n

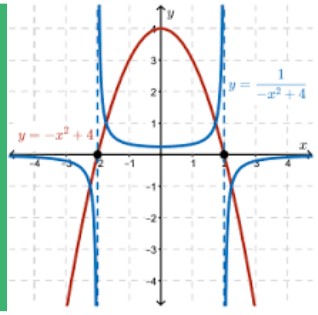


2 sol'n



∞ sol'n





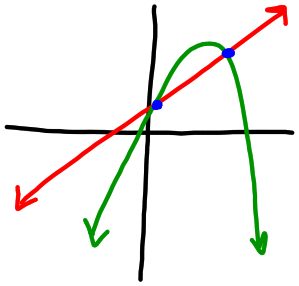
Ex.) Solve and verify the following system of equations:

$x - y + 1 = 0$
$x^2 - 6x + y + 3 = 0$

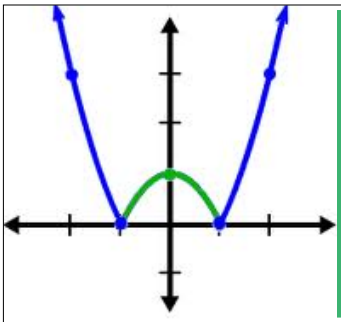
$-x^2+6x \quad -3$

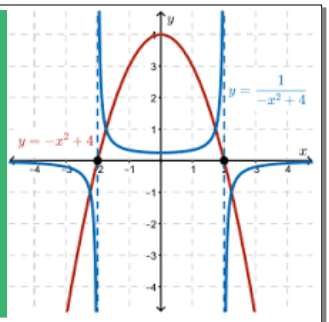
$x+1 = y_1$

$y_2 = -x^2+6x-3$



(1,2)
(4,5)





Ex.) Solve:

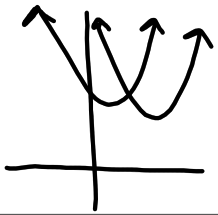
$2(3)^2 - 16(3) - 5 \stackrel{?}{=} -35$

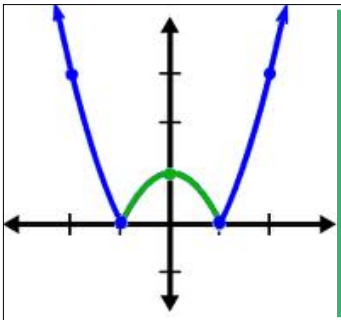
$2x^2 - 16x - y = -35$
$2x^2 - 8x - y = -11$

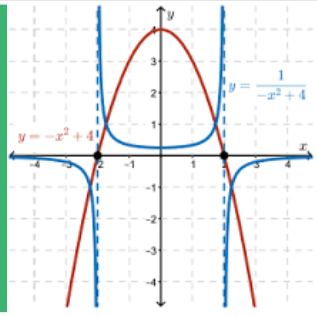
$y_1 = 2x^2-16x+35$

$y_2 = 2x^2-8x+11$

(3,5)







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1-5.