

Oct. 29. 18

4.3 Solving Systems by Graphing



$$(x-h)^2 + (y-k)^2 = r^2$$

- r = radius

- (h, k) = the center

ex: Identify the center & radius

$$(x-2)^2 + (y+5)^2 = 13$$

center: $(2, -5)$

radius: $\sqrt{13}$

ex: Write the equation of a circle with center @ $(2, 1)$ &

radius 5

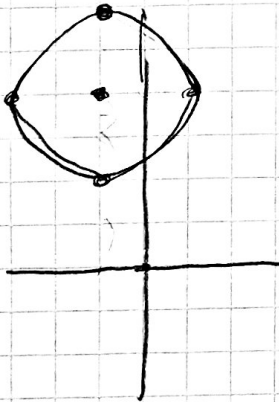
$$(x-2)^2 + (y-1)^2 = 25$$

ex: Graph

$$(x+1)^2 + (y-4)^2 = 4$$

center: $(-1, 4)$

radius: (2)



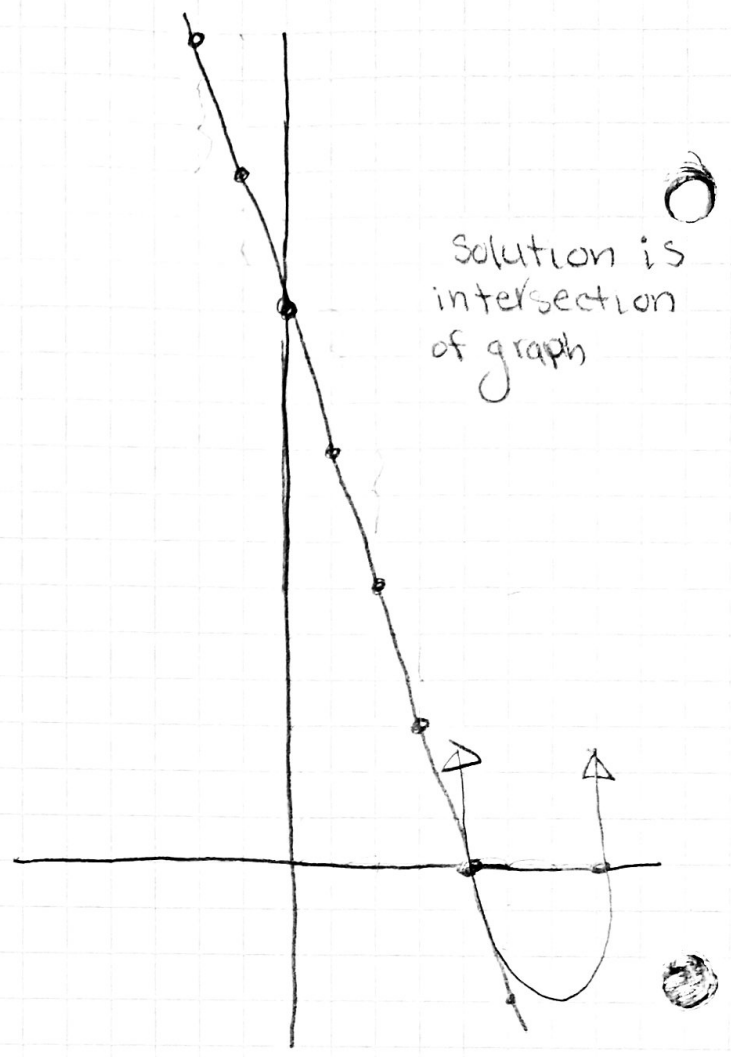
ex: Solve each system.

a) $y = (x^2 - 11x + 28)$
 $y = -3x + 12$

$28x^2$
 $-11x - 4$

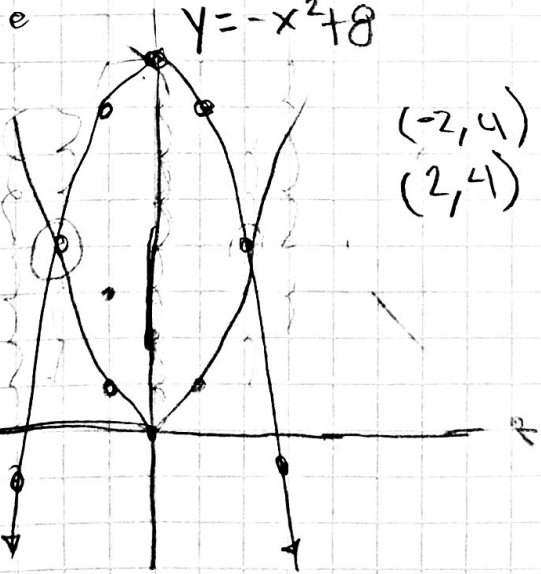
$y = (x-7)(x-4)$
 $x = 7, 4$

$(4, 0)$



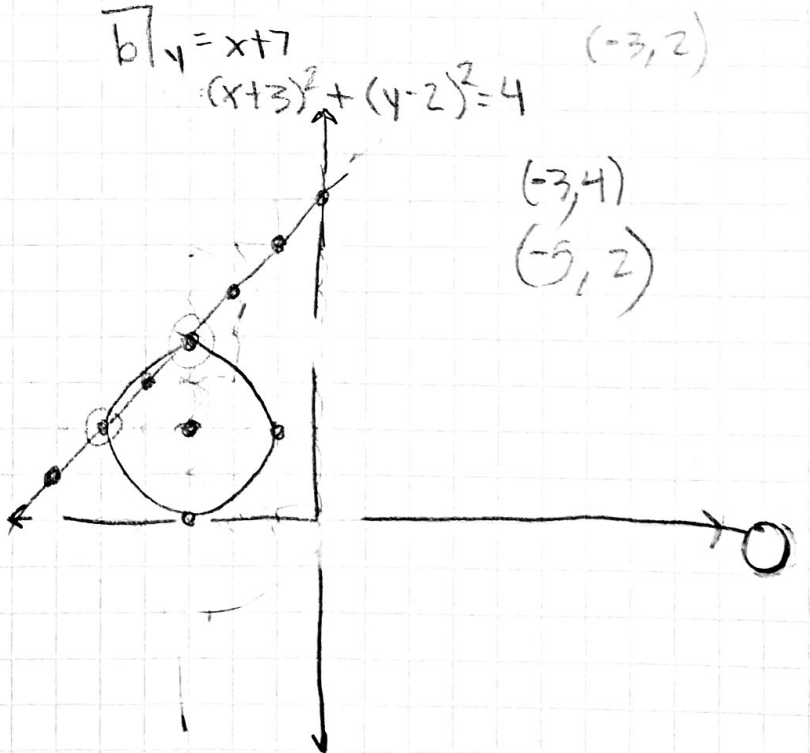
ex, solve by graphing

a) $y = x^2$
 $y = -x^2 + 8$



*if the graphs do not intersect, there is no real solution

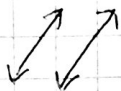
b) $y = x + 7$
 $(x+3)^2 + (y-2)^2 = 4$



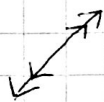
linear vs linear



1 solution



0 solutions



∞ solutions

0, 1, or ∞ solutions

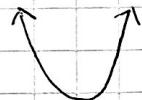
linear vs Quadratic



1 solution



2 solutions



0 solutions

0, 1, 2 solutions

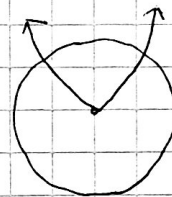
circle vs Quadratic



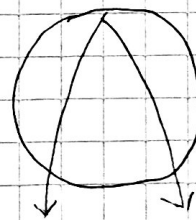
1 solution



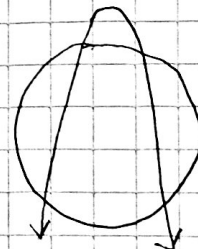
0 solution



2 solutions



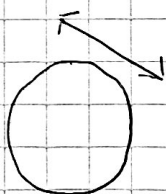
3 solutions



4 solutions

HOW MANY SOLUTIONS?

circle vs linear



0 solutions



1 solution



2 solutions