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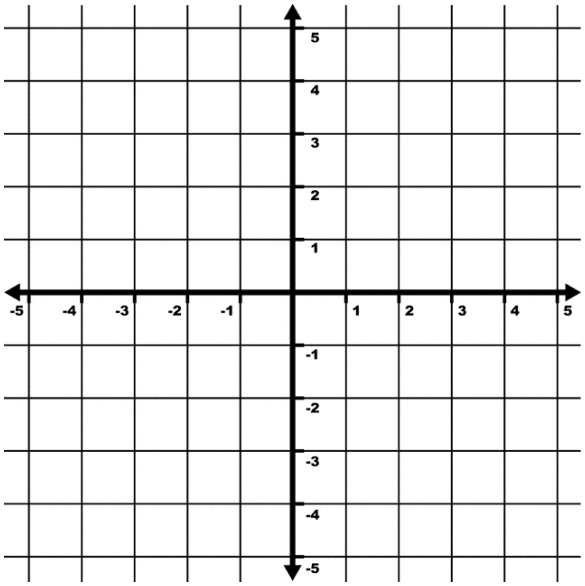
Algebra 2 – Solving Linear-Nonlinear Systems

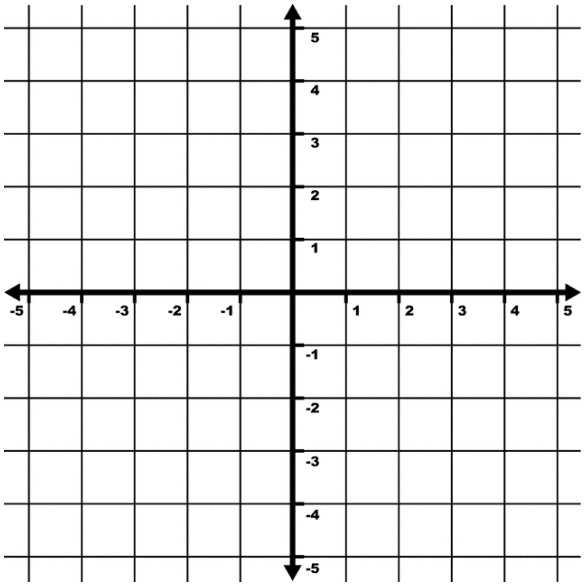
The video covers the following exercises. Please print this sheet and work along!

Please sketch some ways that a circle and a line can interact:

What is the intersection between: $x^2 + y^2 = 25$ and $y = \frac{4}{3}x$



What is the intersection between: $y = -x^2 + 4$ and $y = 2x + 1$



What is the intersection between:

$$x^2 + y^2 = 45$$
$$y^2 - x^2 = 27$$

What is the solution for the following system?

$$x^2 + y^2 \leq 16$$
$$x^2 - y^2 > 9$$