

## Intersection of Circles & Lines

1. By solving the equations as a system, find the points common to the line with equation  $x - y = 6$  and the circle with equation  $x^2 + y^2 = 26$ . Graph the line and the circle to show those points.

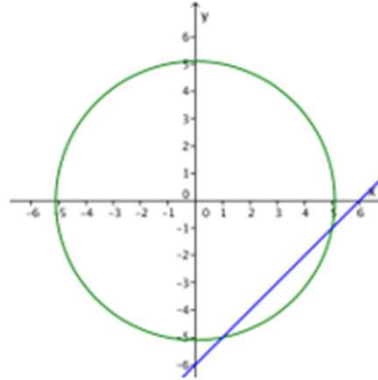
2. Graph the line given by  $5x + 6y = 12$  and the circle given by  $x^2 + y^2 = 1$ . Find all solutions to the system of equations

3. Graph the line given by  $3x + 4y = 25$  and the circle given by  $x^2 + y^2 = 25$ . Find all solutions to the system of equations. Verify your result both algebraically and graphically.

## Intersection of Circles & Lines

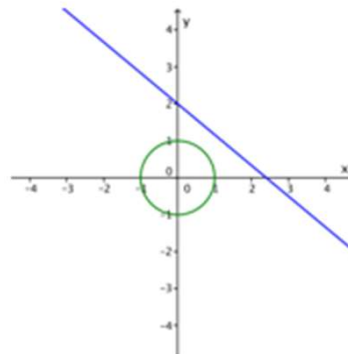
1. By solving the equations as a system, find the points common to the line with equation  $x - y = 6$  and the circle with equation  $x^2 + y^2 = 26$ . Graph the line and the circle to show those points.

$(5, -1)$  and  $(1, -5)$ .



2. Graph the line given by  $5x + 6y = 12$  and the circle given by  $x^2 + y^2 = 1$ . Find all solutions to the system of equations

*There is no real solution; the line and circle do not intersect*



3. Graph the line given by  $3x + 4y = 25$  and the circle given by  $x^2 + y^2 = 25$ . Find all solutions to the system of equations. Verify your result both algebraically and graphically.

The line is tangent to the circle at  $(3, 4)$ , which is the only solution.

