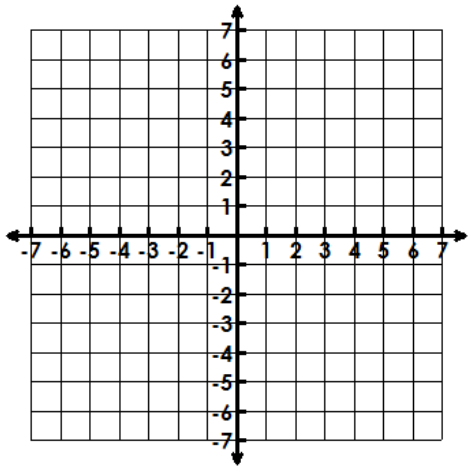


Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Intersections of Circles & Lines – Homework

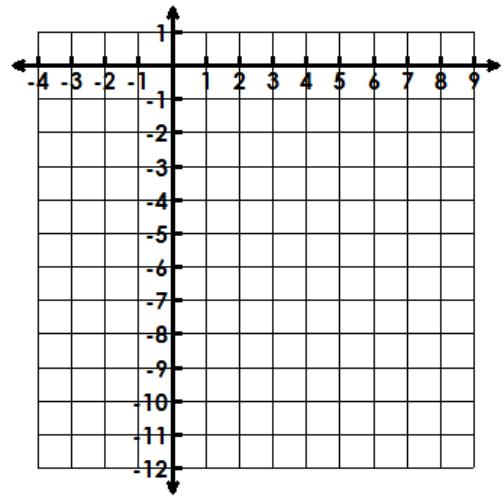
**Solve by graphing and find the point(s) of intersection. If there are none, write “none.”**

1.  $(x+2)^2 + y^2 = 9$   
 $x = 1$



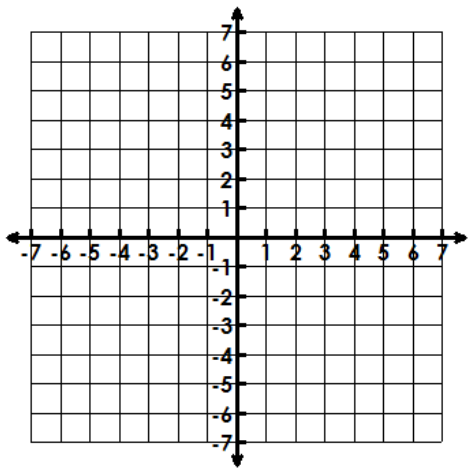
Point(s) of Intersection: \_\_\_\_\_

2.  $(x-3)^2 + (y+6)^2 = 36$   
 $y + 3 = x$



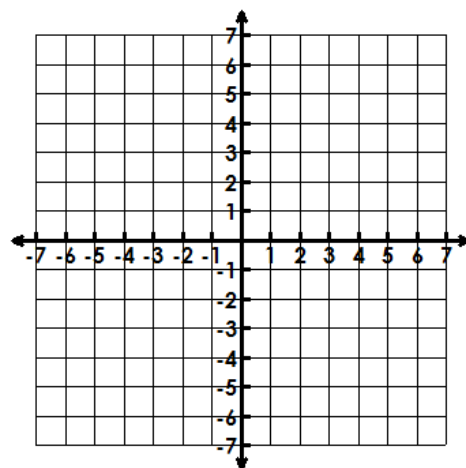
Point(s) of Intersection: \_\_\_\_\_

3.  $(x-3)^2 + (y-1)^2 = 9$   
 $y - 1 = x$



Point(s) of Intersection: \_\_\_\_\_

4.  $(x-1)^2 + y^2 = 4$   
 $(x-1)^2 + (y-3)^2 = 1$



Point(s) of Intersection: \_\_\_\_\_

**Find the point(s) of intersection by solving algebraically. Show all of your work.**

5.  $x^2 + y^2 = 25$   
 $2x + y = 10$

6.  $x^2 + y^2 = 9$   
 $x + y = 3$

**Point(s) of Intersection:** \_\_\_\_\_

**Point(s) of Intersection:** \_\_\_\_\_

**Word Problem**

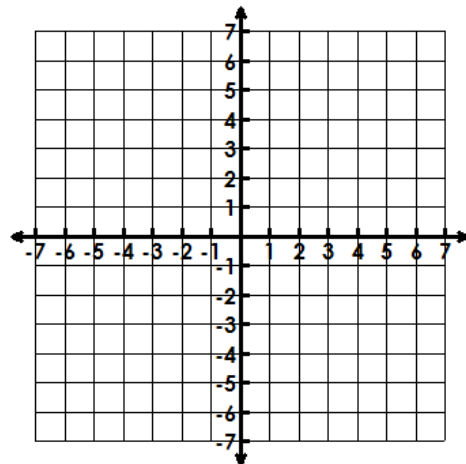
7. A circle is centered at the origin and has a radius of  $2\sqrt{5}$  units. A line with a slope of 3 passes through the origin and intersects the circle in two places. Where does the line intersect the circle?

Write the equation of the circle: \_\_\_\_\_

Write the equation of the line: \_\_\_\_\_

**Find solutions algebraically**

**Find solutions graphically**



**Point(s) of Intersection:** \_\_\_\_\_

**Point(s) of Intersection:** \_\_\_\_\_