

S-4

## Summary of Chapter Four.

For each pair of lines, determine whether they are the same, parallel or intersecting. If they intersect, find the intersection point.

1.  $y = 3x + 8$   
 $y = 3x - 7$

parallel

4.  $x + y = 2$   
 $x + y = 3$

parallel

2.  $y = 2x + 1$   
 $y = x + 2$

intersecting

at (1, 3)

$$2x + 1 = x + 2$$

$$x + 1 = 2$$

$$x = 1 \text{ so } y = 2 \cdot 1 + 1 = 3$$

5.  $2x + 3y = 8$   
 $2x + y = 4$

$$2y = 4$$

$$y = 2$$

$$\text{so } 2x + 6 = 8$$

$$2x = 2$$

$$x = 1$$

int. pt. is (1, 2)

3.  $y = 3x - 5$   
 $y = 3$

intersecting  
(0 ≠ 3)

$$3 = 3x - 5$$

$$8 = 3x$$

$$\frac{8}{3} = x$$

int. pt. is  $(\frac{8}{3}, 3)$ 

6.  $2x + y = 6$   
 $2x - 3y = -2$

$$4y = 8$$

$$y = 2$$

$$2x + 2 = 6$$

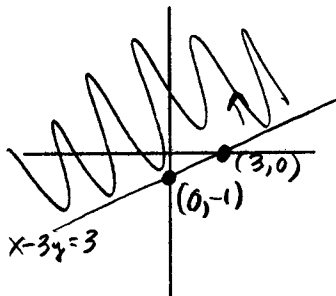
$$2x = 4$$

$$x = 2$$

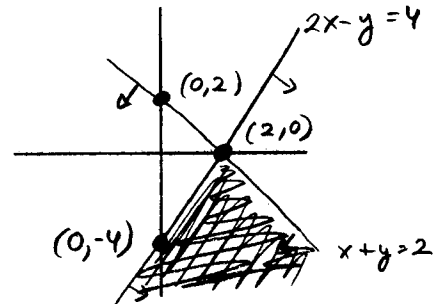
intersection pt. is (2, 2)

Sketch the points in the Cartesian plane that satisfy each inequality or set of inequalities. Label all intersection points in your sketch.

7.  $x - 3y \leq 3$



8.  $2x - y \geq 4$  and  $x + y \leq 2$



Together, Bob and Tom have one hundred dollars. The sum of three times Bob's money with four times Tom's money is three hundred forty dollars.

9. Let  $x$  be Bob's money and  $y$  be Tom's money. Represent each of the statements as an algebraic equation.

$$x + y = 100$$

$$3x + 4y = 340$$

10. How much money does each have?

$$3x + 4y = 340$$

$$3x + 3y = 300$$

$$y = 40 \text{ so } x + 40 = 100$$

$$x = 60$$

Bob has \$60  
 and Tom has \$40.