S-3

Summary of Chapter Three.

Find the slope of the line through the given points.

1. (2,3) and (3,5)

$m = \frac{5-3}{3-2} = \frac{2}{1} = 2$

2. (-1,3) and (2,-3)

$m = \frac{-3-3}{2-(-1)} = \frac{-6}{3} = -2$

Find the equation of the line with the given properties.

3. slope 3 and y-intercept (0,-2)

$y = 3x - 2$

4. slope 2 through (0,0)

$y = 2x$

5. slope -3 through (-1,3)

$y = -3x + b$
$3 = -3 \cdot (-1) + b$
$3 = 3 + b$
$0 = b$
$y = -3x$

6. through (-1,3) and (2,-3)

$m = \frac{-3-3}{2-(-1)} = \frac{-6}{3} = -2$ (agree #1 !!)

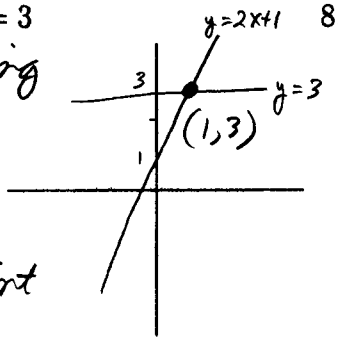
$y = -2x + b$
$3 = -2(-1) + b$
$3 = 2 + b$ so $b = 1$
$y = -2x + 1$

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

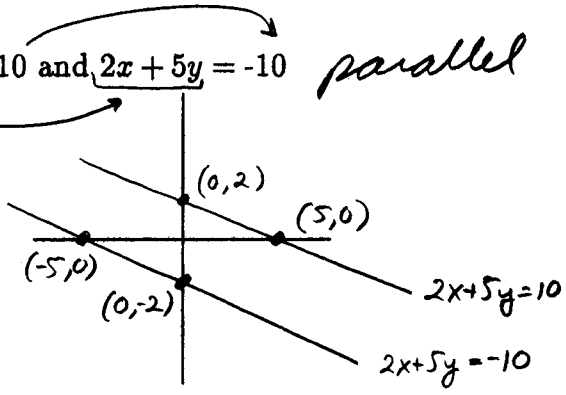
7. $y = 2x + 1$ and $y = 3$

intersecting

$3 = 2x + 1$
$2 = 2x$
$1 = x$
intersection point is $(1,3)$



8. $2x + 5y = 10$ and $2x + 5y = -10$ parallel



Mimums Cookin, Inc., serves a "FiberBits" breakfast special for their regular customers. A small bowl ("five ounces of yumm") costs them forty-five cents while a big bowl ("ten ounces more than you really wanted") costs them seventy cents.

9. How much does one ounce of FiberBits cost them? What is their *fixed cost* per bowl?

(5, 45) (10, 70) (ounces, ¢)

$m = \frac{70-45}{10-5} = \frac{25}{5} = 5¢$ per ounce

5 ounces @ 5¢ each is 25¢ no fixed cost is $45¢ - 25¢ = 20¢$

10. Express the total cost (y) of a serving of FiberBits as a function of the number of ounces served (x).

$y = 5x + 20$