**Extra Credit 13 – 16**

**Extra #13**

**Graph the inequalities, name the vertices and give the maximum and minimum of the function.**

**1.** y2x – 4 **2.** y x – 3 **3**. x + y 2

y -2x - 4 3x - y 7 4y x + 8

y 2 2x - y 3 2y 3x - 6

f(x, y) = -2x + y f(x, y) = x – 4y f(x, y) = 3y + x

**Extra #14**

**Solve (linear programming)**

Oaken Treasures makes two different kinds of chairs, rockers and swivels. Work on machines A and B is required to make both kinds. Machine A can be run no more than 20 hours a day. Machine B is limited to 15 hours a day. The following chart shows the time on each machine that is required to make one chair. The profit made on each chair is also shown.

|  |  |  |  |
| --- | --- | --- | --- |
| **Chair** | **Operation A** | **Operation B** | **Profit** |
| Rocker | 2 hours | 3 hours | $12 |
| Swivel | 4 hours | 1 hour | $10 |

How many chairs of each kind should Oaken Treasures make each day to maximize their profit? What is their max. profit?

**Extra #15**

**Simplify**

**1. 2.**  + (-3x

**3.** **4.** 6

**5.** **6.** -5(2

**Extra #16**

**Simplify**

**1. 2.**

**3. 4.**

**5.**  **6.**