Chapter 4 Homework problems
Compiled by Joe Kahlig

Section 4.2

1. $x = 11/2$, $y = 63/4$, $z = 18$, $C = -66$

2. $x = 0$, $y = 2$, $z = 56/3$, $C = -168$

3. (a) Maximize: $f = 40u + 30w + 30v$
    constraints:
    $4u + 2v + w \leq 2$
    $u + v + w \leq 3$
    $u, v, w \geq 0$

   (b) $x = 12$, $y = 6$, $f = 54$

4. (a) Maximize: $f = 9u + 9v + 12w$
    constraints:
    $3u + v + 4w \leq 10$
    $u + v \leq 16$
    $6u + w \leq 20$
    $u, v, w \geq 0$

   (b) $x = 9$, $y = 0$, $z = 0$, $f = 90$

5. (a) Maximize: $C = 5u - v$
    Constraints:
    $3u - 7v \leq 4$
    $2u + 8v \leq 2$
    $u, v \geq 0$

   (b) $X = 0$, $Y = 5/2$, $c = 5$

6. (a) Maximize: $C = 100u - 75z$
    constraints:
    $10u + -5v \leq 4$
    $12u + -7v \leq 5$
    $5u + -5v \leq 1$
    $u, v \geq 0$

   (b) $x = 5$, $y = 0$, $z = 10$, $C = 30$

7. $x = 500$, $y = 200$, $z = 0$, $u = 0$, $v = 200$, $w = 400$ and
   $C = 20800$