ALGEBRA II REVIEW PROBLEMS
(Chapter 3)

1. Graph the following:

a. $3x - 4y = 13$
$2x + y = 5$

b. $3x + 4y > 8$
$5x - y \geq 0$

c. $y < 4$
$y \geq |x - 3| - 2$

d. B (-1, 2, 2)

e. $5x + 2y + 5z = 10$ (Label each trace)

2. Without graphing, classify the following system as *independent*, *dependent* or *inconsistent*:

$5x - y = 2$
$x - y = -4$

3. Solve the following linear systems; write solution as an ordered pair:

a. $3x + 2y = 12$
$x + y = 3$

b. $2x - y = -5$
$x + y = 4$

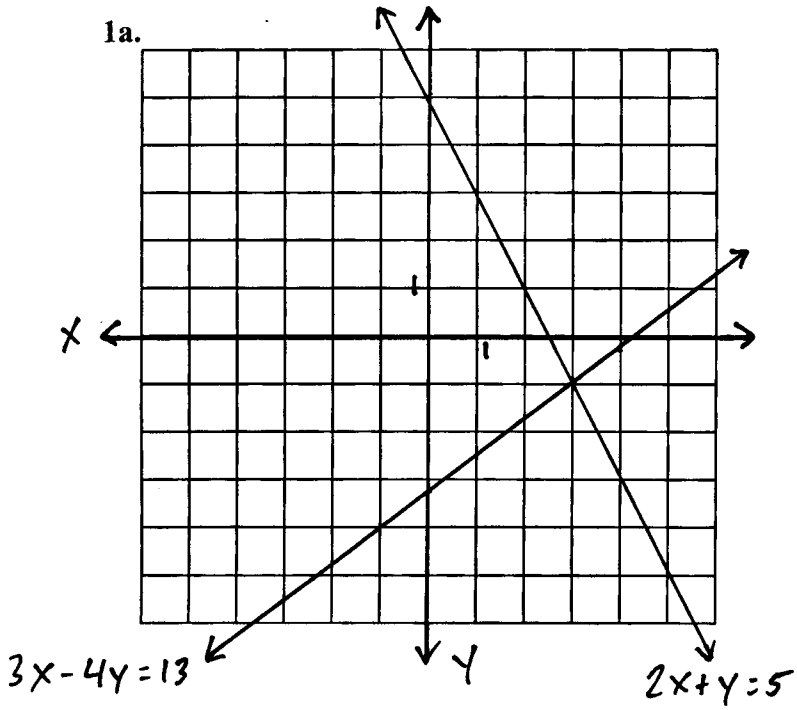
4. A lunch stand makes \$.75 in profit on each chef's salad and \$1.20 in profit on each Caesar salad. On a typical weekday, it sells between 40 and 60 chef's salads and between 35 and 50 Caesar salads. The total number sold has never exceeded 100 salads.
a. Write and graph each constraint; label vertices
b. How many of each type of salad should be prepared to maximize profit?

5. Solve the following system; write solution as an ordered triplet:

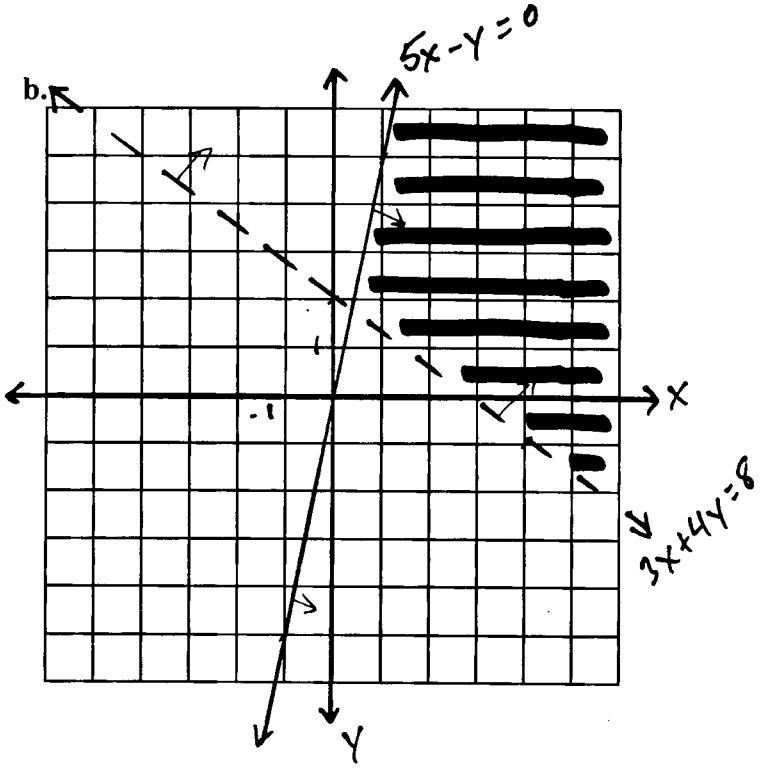
$3x + y - z = 15$
$x - y + 3z = -19$
$2x + 2y + z = 4$

ANSWERS

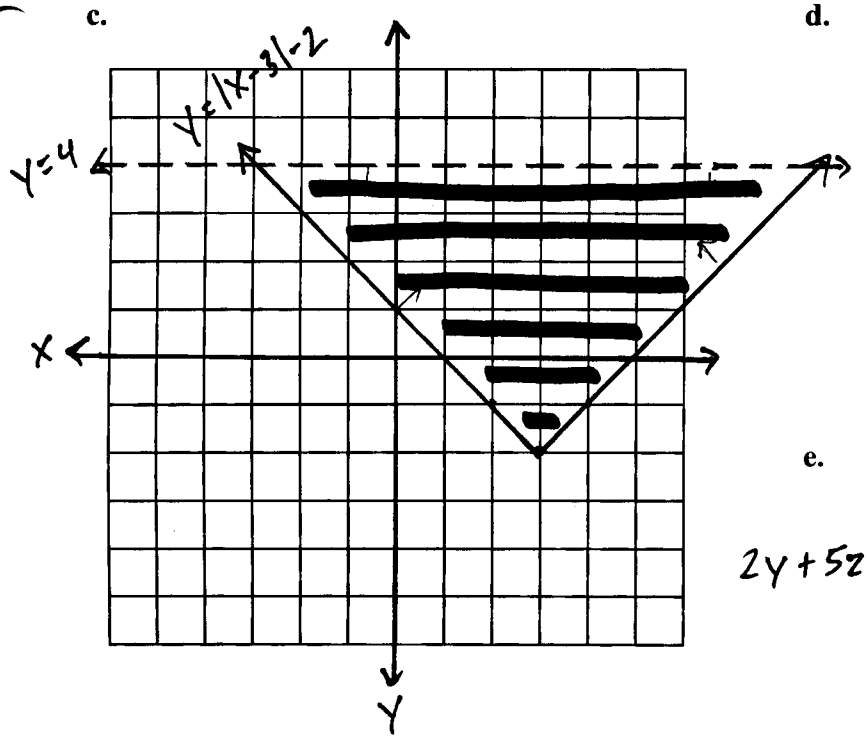
1a.



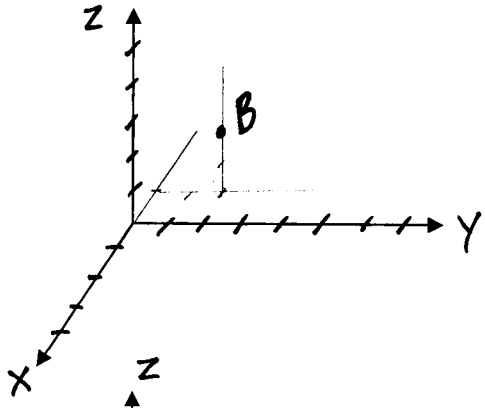
b.



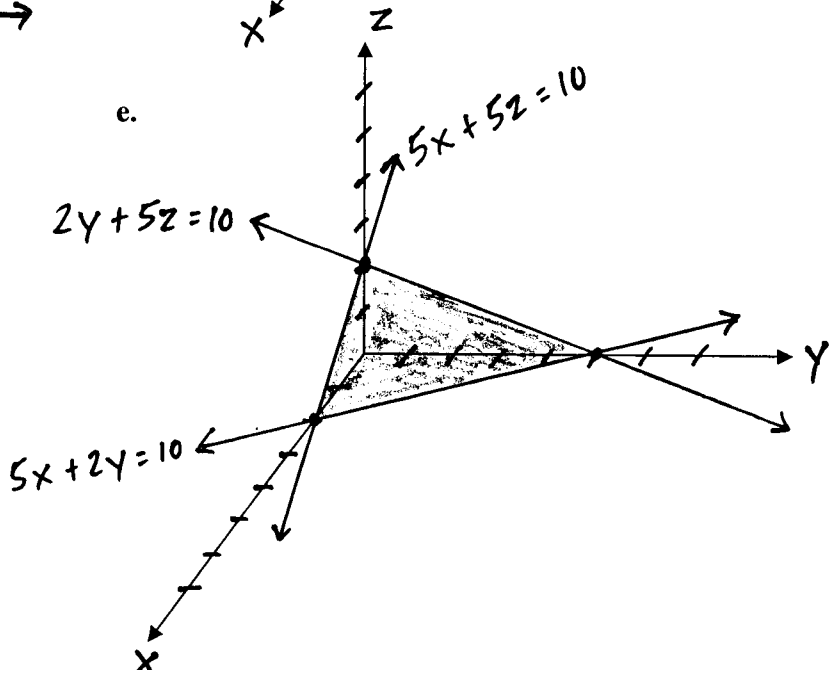
c.



d.



e.

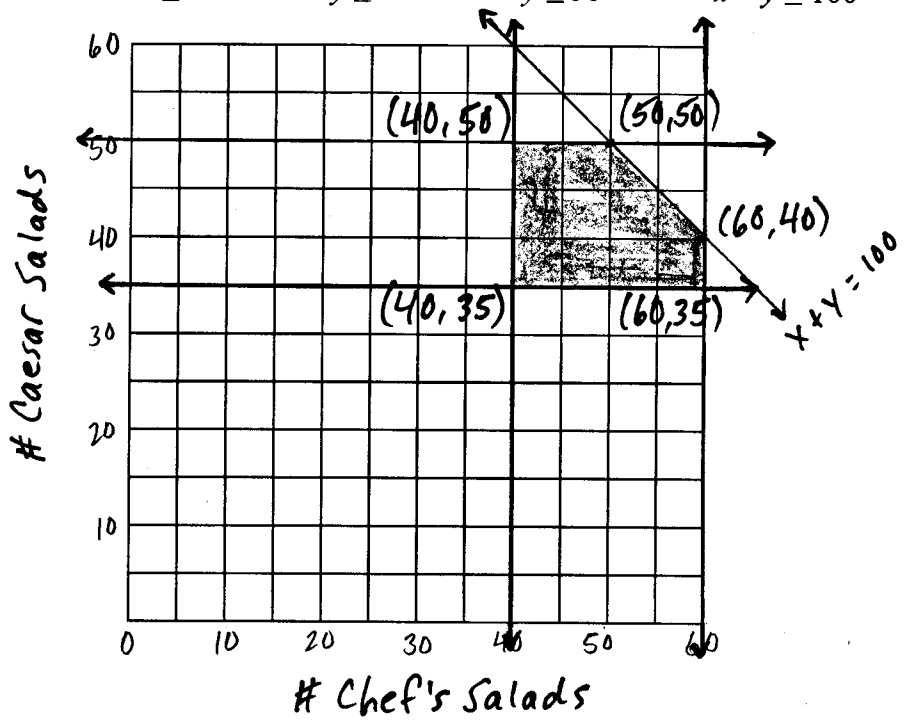


2. Independent

3a. (6, -3) **b.** $(\frac{-1}{3}, \frac{13}{3})$

4a. x = number of chef's salads made y = number of Caesar salads made

$x \geq 40$ $x \leq 60$ $y \geq 35$ $y \leq 50$ $x + y \leq 100$



b. Profit = $.75x + 1.20y$

(40, 35) ---> \$72
(60, 35) ---> \$87
(60, 40) ---> \$93
*(50, 50) ---> \$97.50
(40, 50) ---> \$90

*50 Chef Salads; 50 Caesar Salads

5. (2, 3, -6)