

Name\_\_\_\_\_

Serial #\_\_\_\_\_

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 1) A manufacturer sells his product at \$12.50 per unit, selling all he produces. His fixed cost is \$5,000 and his variable cost per unit is \$8.50. (a) At what level of production will he break even? (b) At what level of production will he have a profit of \$10,000?

- 2) Sketch the region described by the inequalities

$$\begin{cases} 2x + y \geq 1 \\ x - y \leq 1 \end{cases}$$

- 3) Maximize

$$Z = 5x - 3y$$

subject to

$$2x - y \leq 8$$

$$2x - 5y \geq 0$$

$$x - y = -2$$

$$x, y \geq 0.$$

Do not use the simplex method.