

Chaparral High School

Algebra II Review for Exam: Systems of Equations

Solving 2x2 Systems of Equations by Graphing, Substitution, and Elimination; Systems of Linear Inequalities; Linear Programming; 3x3 Systems of Equations.

This is a 45 minute exam to be completed without the aid of calculators. Please show all appropriate work and place answers in lowest terms. Please work independently. This exam, together with the district assessments, will be scaled to 100 points. Good Luck!

- 1) (6 points) Solve the following system of equations by using the **Graphing Method**.

$$3x - 4y = 24$$

$$3x + 2y = 6$$

- 2) (6 points) Solve the following system of equations by using the **Method of Substitution**.

$$6x - 8y = 6$$

$$-3x + 2y = -2$$

- 3) (6 points) Solve the following system of equations by using the **Method of Elimination**.

$$3x - 2y = 22$$

$$-5x + 6y = -13$$

- 4) (6 points) Graph the given system of inequalities.

$$2x - 3y < 8$$

$$y \leq -3|x - 1| + 2$$

- 5) (8 points) Maximize the function $f(x, y) = 2x - \frac{5}{3}y$ subject to the following constraints.

$$x \geq 0$$

$$y \geq 0$$

$$2x - 3y \leq 7$$

$$2x + 5y \leq 12$$

- 6) (8 points) Solve the following system of equations.

$$3x + 3y + 5z = 1$$

$$3x + 2y + 9z = 0$$

$$5x + 9y + 11z = -2$$