

Review Sheet for Exam #2

- 1) Solve for x , y , and z . Express your answer as an ordered triple.

$$\begin{aligned}x - 5y - 5z &= -6 \\2x + 2y + z &= 15 \\-3x + y + z &= -10\end{aligned}$$

- 2) Find the quotient and express in standard form of a complex number.

$$\frac{6 - 9i}{-3 + 8i}$$

- 3) Rationalize the denominator and express in simplest form:

$$\frac{20}{\sqrt{24}}$$

- 4) Find the vertex, the roots, and the y intercept of $y = x^2 - 4x - 5$. Then graph the parabola, labeling all the points.

- 5) Add the following rational expressions and express your answer in simplest form.

$$\frac{5}{x} - \frac{7}{x-1}$$

- 6) Put $\sqrt[3]{7^{12}}$ in exponential form and evaluate.

- 7) Solve the equation and **check your answer**.

$$2\sqrt{x+3} - x = 0$$

- 8) Simplify and express your answer without negative exponents.

$$\left(\frac{7a^{-3}}{3a^7}\right)^4$$

- 9) Perform the indicated operation and express in simplest form.

$$2x\sqrt{28x^9} + 9x^3\sqrt{7x^5}$$

- 10) Solve the nonlinear system of equations. Express your answer(s) as ordered pairs.

$$\begin{aligned}x^2 + y^2 &= 17 \\4x^2 + y^2 &= 20\end{aligned}$$

- 11) Simplify the complex fraction.

$$\frac{\frac{7x}{y} - x}{x - \frac{6x}{y}}$$

- 12) Put the equation of the circle in standard form and identify the center and radius of the circle. Then graph the circle, labeling 4 points.

$$x^2 + 52 - 10x + 12y + y^2 = 0$$

- 13) Solve using the quadratic equation. Leave answer in simplest radical form.

$$2x^2 - 14x + 23 = 0$$