Do your own work. There are up to 10 Bonus Points available. So choose the 10 points you want to try for and write the word OMIT next to all the ones you don't.

1. (10 pts) Solve the system of linear equations by the elimination method:

$$x - 2y + 3z = 13$$
$$-2x + 5y - 7z = -30$$
$$6x - 15y + 20z = 83$$

2. Solve the absolute value inequalities.

    a. (5 pts) $|2x - 7| < 11$ b. (5 pts) $|2x - 7| < -11$

3. Multiply:

    a. (5 pts) $(x - 2)(x + 7)$

    b. (5 pts) $(2x - 3)(x^2 + 5x - 7)$

4. Solve by factoring:

    a. (5 pts) $x^2 - 9 = 0$ b. (5 pts) $x^2 - 5x - 14 = 0$

5. (5 pts) Simplify $\left(\dfrac{2x^{-2}y^3z^5}{x^{-5}y^7z^{-5}} \right)^8$. Your final answer should involve only positive

exponents.

6. (5 pts) Graph the system of inequalities $\begin{aligned} 2x + 5y &\le 10 \\ x &\ge 0 \\ y &\ge 0 \end{aligned}$

Bonus – Answer up to 10 points'-worth

Bonus (5 pts) Graph the piecewise-defined function $f(x) = \begin{cases} -\sqrt{x+2} + 4 & \text{if } x < 0 \\ 2x - 2 & \text{if } x \geq 0 \end{cases}$

Bonus (5 pts) Find the *real* solution of the equation $x^3 - 64 = 0$ by factoring.

Bonus (5 pts) Find an equation of the line through (- 6, 7) that is perpendicular to the line through (2, 1) and (-5, 6).