Name: _____

> **Directions:** You *must* show all your work in the provided space. Simplify your answers whenever possible. Be certain to indicate your final answer clearly.

1. Simplify using the properties of exponents: $\left(\dfrac{21x^4y^7}{7x^8y^3}\right)^2$.

2. Simplify using the properties of exponents: $\left(\dfrac{2xz^2}{y}\right)^2(-xyz^2)^3$.

3. Solve for x and y: $\begin{cases} 2x + 3y &= 7 \\ y &= 5 - 2x \end{cases}$

4. Solve for x and y: $\begin{cases} 2x - 3y &= -8 \\ 3x + 2y &= 1 \end{cases}$

5. Find the sum of $3xy^2 - x^3y - 2xy + 6$ and $3x^3y - 5xy + 2xy^2 - 3$.

6. Subtract $-x^2 + 3x - 5$ from $3x^2 + 6x - 3$.

7. A triangle has sides $6x - 2$, $3x + 5$ and $4x + 6$. Find a polynomial that represents its perimeter.