

Name: _____

Directions: Complete all questions and **show all applicable work.** Partial credit will be given.

1.) [14pts] Leila, Sam and Jojo each eat peanut butter sandwiches regularly. In the past year their mother made them 630 sandwiches, if Leila consumed twice as many sandwiches as Jojo, and Sam at the same number as Leila, how many sandwiches did each child have?

2.) [14pts] Simplify: $\left(\frac{18x^5y^2}{2xy^{\frac{2}{3}}}\right)^{\frac{1}{2}}$

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3.) [14pts] Solve for x :

$$\frac{3}{4} - \frac{4}{x} = -1$$

4.) [14pts] Solve for x :

$$\frac{1 + 2x}{3x} = \frac{3}{5}$$

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5.) [14pts] Starting with the function $f(x) = \sqrt{x}$, plot $g(x) = -\sqrt{x-2} + 3$. Describe each successive transformation and its effect on $f(x)$.

6.) [10pts ea.] Solve the following equation for x (A) by factoring, (B) by completing the squares and (C) with the quadratic equation. Your answer should be the same for all three. Use the space below and the back as needed. Clearly label each method.

$$x^2 - 5x = -6$$