

GT ID:

--	--	--	--	--	--	--	--	--

By signing here, you agree to abide by the **Georgia Tech Honor Code**: *I commit to uphold the ideals of honor and integrity by refusing to betray the trust bestowed upon me as a member of the Georgia Tech Community.*

Sign Your Name: _____

Please clearly organize your work, show all steps, simplify all answers, and BOX your answers.

- (4 points) Fill in the blanks using arbitrary constants A, B, C, D, \dots (as many as you need) to set up a partial fraction decomposition for the given rational function. Leave any unused boxes blank. *Do not integrate!*

$$\frac{x^3 - 8}{x^3(x^2 + 1)^2} = \boxed{} + \boxed{} + \boxed{} + \boxed{} + \boxed{}$$

- (8 points) Use partial fractions to find the general anti-derivative of $f(x) = \frac{2x + 1}{x^2 - 7x + 6}$.

3. (8 points) Evaluate.

$$\int \frac{1}{x^2\sqrt{x^2-1}} dx$$