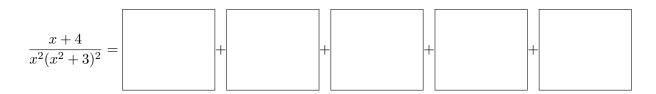
Teaching Assistant/Section:

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.

1. (4 points) Fill in the blanks using arbitrary constants A, B, C, D, \ldots (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!



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

3. (8 points) Evaluate.

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