Instructions: Time is 15 minutes and the total score is 10 points. You can answer in attached papers if you like.

a). \( \int \frac{y^4 + 2y^2 + 81}{y(y^2 + 9)} \, dy \) (Hint: Remember to check whether the fraction is improper or not.) (4 pts)

b). Find the area of the region bounded by \( y = \frac{x^2}{1+x^2}, x = 1 \) and x-axis. (6 pts)