1. [7 points] The figure to the right shows four functions graphed near $x = 0$. Use Taylor series to determine which of these is the graph of $f(x) = \frac{1}{\sqrt{1+x}}$. Note: you will get zero credit if you do not include work that shows how you obtained your answer using Taylor series.

2. [7 points] Suppose that we apply Euler’s method with $\Delta x = 0.1$ to approximate the solution to $y' = ay + cx$ with $y(0) = 5$, and find that $y(0.1) \approx 6$ and $y(0.2) \approx 7.23$. What are $a$ and $c$?