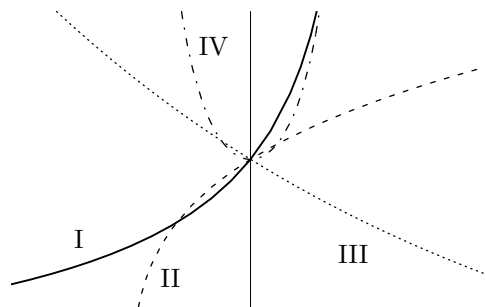


1. [7 points] The figure to the right shows four functions graphed near  $x = 0$ . Use Taylor series to determine which of these is the graph of  $f(x) = \frac{1}{\sqrt{1-x}}$ . Note: you will get zero credit if you do not include work that shows how you obtained your answer using Taylor series.



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  $c$ ?