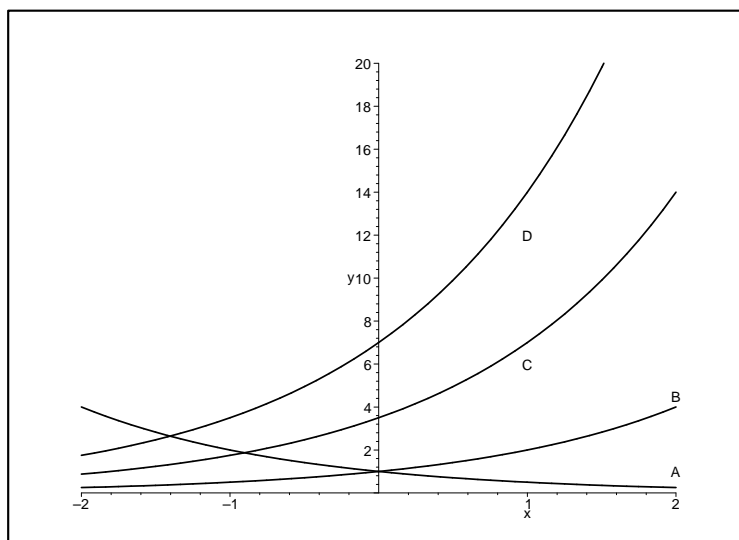


Math 120 Quiz 6

Problem 1 Match the curves A,B,C,D below with the formulas a^x , $7 * a^x$, $(\frac{1}{a})^x$, $7 * a^{x-1}$ where a is some constant greater than 1.



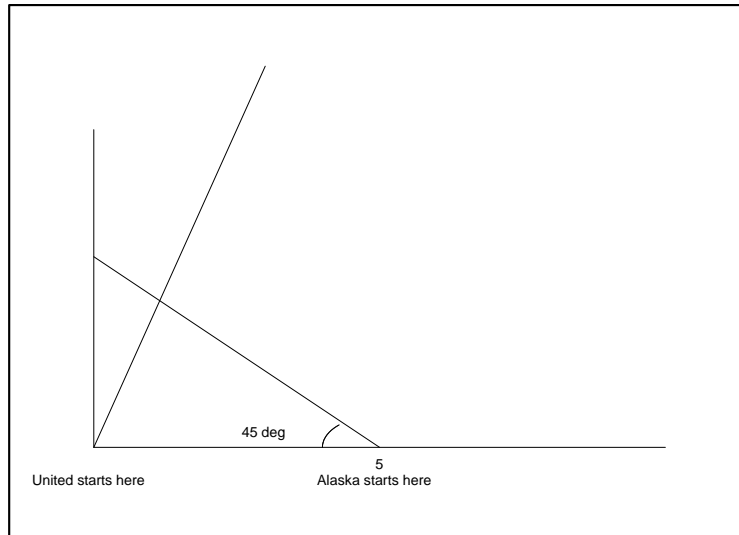
(2 points) A has equation:

(2 points) B has equation:

(2 points) C has equation:

(2 points) D has equation:

Problem 2: The flight paths of two airplanes are pictured below. The United plane begins at the origin and has parametric equations given by $U(t) = (150t, 200t)$. t is measured in hours, and distances are measured in miles. The ALASKA plane starts at the point $(5,0)$ and has velocity of 200 miles/hour



a)(5 points) What are the parametric equations for the ALASKA plane ?

b)(3 points) Find a formula for a function $f(t)$ that calculates the square of the distance between the two planes at time t .

c)(4 points) What is the minimum possible distance between the planes ?