2. (9 points) Consider the following equations with a and b constants:

(i) $y^5 = ex$

(ii) $y - a^b = b(x-a)^{1/3}(x-a)^{2/3}$

(iii) $y - 2 = \sqrt{x^e}$

(iv) $\pi y = (9/13)^x$

Use the equations to answer the following. (One equation will not be used.)

(a) Which of the above can be written so that y is a linear function of x?

Equation number   (ii)

What is the slope of the function?   b

What is the y-intercept of the graph? $a^b - ab$

(b) Which of the above can be written so that y is an exponential function of x?

Equation number   (iv)

What is the initial value of the function? $\frac{1}{\pi}$

What is the percent rate of growth/decay of the function? $\approx$ -30.8 %

(c) Which of the above equations can be written as a power function of the form $y = kx^p$?

Equation number   (i)

What is k? $e^{\frac{1}{5}}$

What is p? $\frac{1}{5}$