

Problem Set 1

Demography Camp

Summer 2013

Turn in answers electronically to kbiettsch@princeton.edu or in my mailbox by 9AM tomorrow.

Question 1

Solve for x:

$$7 = e^{2x}$$

Question 2

Solve for x:

$$8 = \log(e^x)$$

Question 3

Solve for x:

$$\log(7^x) = 20$$

Question 4

What is the derivative of x^2 ?

Question 5

Solve the integral:

$$\int_0^1 x^2 dx$$

.

Question 6

Give an example of a cohort you are part of.

Question 7

If Jack dies on the last day of March and Jane survives through the whole year, what is the total number of person years they have contributed to the period.

Question 8

Draw an example of a non-monotonic function.