1. Consider the following population scenarios. In each, determine if an exponential, linear, or neither of these models would be a suitable fit. Explain your choice. If exponential or linear, find an equation to best describe the population as a function of time measured in years, assuming at the population is 500,000.

a) each year, the town grows by roughly 1000 residents.

b) each year, the town grows by roughly 9%.

c) each year, the town is decreasing at a continuous rate of 4%.

d) each year, the town shrinks by roughly 15%.

e) each year, the town loses roughly 2500 residents.

2. Write the following expressions with no terms in the exponent and no negative exponents.

a) b) c) d)

3. Solve the following exactly:

(A)  (B) 

(C)  (D) 

(E) 