1. Write each as a logarithm.

a) $x^4 = 50$ b) $5^6 = x$ c) $9^x = 40$

2. Write each as an exponential.

a) $\log X = 100$ b) $\log_x 90 = 3$ c) $\log_2 7 = x$

3. The amount of a certain substance decays 7% each year. There was 400 kg of this substance in 2008.

a) Find the amount of this substance in 2000 to the nearest tenth.

b) Find the amount of this substance in 2020 to the nearest tenth.

c) In how many years after 2008 will there be 50 kg remaining? Round to the nearest tenth.