

Math 105 - Section 4.3 - Lecture Notes Handout

1. The population (in millions) of a country is modeled by the function
$$P(t) = 100e^{-0.1t}$$
 - a. What was the initial population?
 - b. At what percentage rate is the population changing with respect to time
 - c. What is the rate of change of population after 10 years? Is it increasing or decreasing?
 - d. What happens in the long run? (i.e. as t approaches infinity)
2. Suppose the percentage of alcohol in the blood t hours after consumption is given by $C(t) = 0.12te^{-t/2}$
 - a. At what rate is the blood alcohol changing at time t ?
 - b. How much time passes before the blood alcohol level begins to decrease?
 - c. At what rate is the blood alcohol level changing after 4 hours?

Math 105 - Section 4.3 - Lecture Notes Handout

1. The population (in millions) of a country is modeled by the function
$$P(t) = 100e^{-0.1t}$$
 - a. What was the initial population?
 - b. At what percentage rate is the population changing with respect to time
 - c. What is the rate of change of population after 10 years? Is it increasing or decreasing?
 - d. What happens in the long run? (i.e. as t approaches infinity)
2. Suppose the percentage of alcohol in the blood t hours after consumption is given by $C(t) = 0.12te^{-t/2}$
 - a. At what rate is the blood alcohol changing at time t ?
 - b. How much time passes before the blood alcohol level begins to decrease?
 - c. At what rate is the blood alcohol level changing after 4 hours?

Math 105 - Section 4.3 - Lecture Notes Handout

1. The population (in millions) of a country is modeled by the function
$$P(t) = 100e^{-0.1t}$$
 - a. What was the initial population?
 - b. At what percentage rate is the population changing with respect to time
 - c. What is the rate of change of population after 10 years? Is it increasing or decreasing?
 - d. What happens in the long run? (i.e. as t approaches infinity)
2. Suppose the percentage of alcohol in the blood t hours after consumption is given by $C(t) = 0.12te^{-t/2}$
 - a. At what rate is the blood alcohol changing at time t ?
 - b. How much time passes before the blood alcohol level begins to decrease?
 - c. At what rate is the blood alcohol level changing after 4 hours?