1. Manolo and Joaquin did an experiment to determine which color light produced the fastest photosynthetic rate. Red light caused spinach leaf discs to rise in an average of 12 minutes. Green light caused the spinach leaf discs to rise in an average of 23 minutes. If they ran a T-Test on this data which p-value listed below would show a statistical difference between red light and green light?
   1. P = 1.34
   2. P = 0.51
   3. P = 0.03
   4. P = 0.15
2. The curly moustache allele (c) is recessive to the straight moustache allele (C). If the frequency of the curly moustache allele in San Angel is 0.20, what is the frequency of people with curly moustache in San Angel?
   1. 0.04
   2. 0.64
   3. 0.80
   4. 0.32
3. What is the frequency of people homozygous dominant for straight moustache?
   1. 0.04
   2. 0.64
   3. 0.80
   4. 0.32
4. An ecologist determines that a population of rabbits is growing exponentially. Its per capita growth rate (r) is 0.30 rabbits per rabbit per year. The current population size is 200. What is the population’s current growth rate in rabbits per year?
   1. 667 rabbits per year.
   2. 140 rabbits per year.
   3. 60 rabbits per year.
   4. 200 rabbits per year.
5. An ecologist is studying a population of gazelles in Zuganda. If current conditions hold, the ecologist projects that Zuganda can support a gazelle population of 400. The current population size is 150. The per capita growth rate (r) was measured at 0.2 gazelles per gazelle per year. What is the population’s current growth rate?
   1. 50 gazelles per year.
   2. 30 gazelles per year.
   3. 39 gazelles per year.
   4. 19 gazelles per year.
6. A piece of sweet potato is found to be at osmotic equilibrium in a beaker containing a 0.6M sucrose solution. The room temperature was 23oC. What is the water potential of the sweet potato cells?
   1. 14.8
   2. -14.8
   3. 29.5
   4. -29.5
7. What is the surface area to volume ratio of a cube with 1.5cm sides?
   1. 2.7
   2. 4.0
   3. 0.3
   4. 6.0

**Answers**

1. C.
2. A.
3. B.
4. C.
5. D.
6. B.
7. B.