1. List three **bacterial** diseases involving an insect or arthropod vector. For each, list the causative organism and the vector.

2. Although the threat of an Ebola virus outbreak makes for great books and movies, why is it currently thought to be unlikely that we'll see an epidemic- or pandemic-scale outbreak of this disease?

3. Give **two** reasons why an AIDS vaccine has so far been much harder to develop than vaccines against many other viral diseases.

4. Although viruses are obligate intracellular parasites, they are not the **only** intracellular parasites!
   a. What is one **bacterial** species that is an obligate intracellular parasite, and what disease does it cause?
   b. What is one bacterial species that can multiply outside of a host cell but **can** invade host cells, and what disease does it cause?
   c. What is one **eukaryotic** parasite that replicates inside cells, and what disease does it cause?

5. **True or false:**

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   | ☐  | ☐  | **Sex with an HIV-positive person is safe if a condom is used to protect against transmission of the virus.**
   | ☐  | ☐  | **Yellow fever and malaria are caused by related viruses, and both are carried by the mosquito Aedes aegypti.**
   | ☐  | ☐  | **By middle age, up to 95% of Americans will have had infectious mononucleosis, a disease caused by the EBV virus.**
   | ☐  | ☐  | **Lyme disease was discovered only recently because the spirochete that causes it probably evolved recently from a non-pathogenic species.**
   | ☐  | ☐  | **There is evidence that HAART therapy may result in the elimination of the HIV virus from the body of at least some HIV-positive individuals.**
   | ☐  | ☐  | **Like all spore-forming organisms, *Bacillus anthracis* (cause of anthrax) is an obligate anaerobe and cannot multiply well within the human body.**