1. (6 points) Consider the four waves shown below.

![](image)

a. Use the letters to rank them in order from longest wavelength to shortest wavelength.
   
   ______ > ______ > ______ > ______

b. Use the letters to rank them in order from smallest frequency to largest frequency.

   ______ < ______ < ______ < ______

c. Use the letters to rank them in order from largest energy to smallest energy.

   ______ > ______ > ______ > ______

2. (4 points) 
   a. Rank microwaves, yellow visible light, green visible light, and X-rays in order from the longest wavelength to the shortest wavelength.

   ______________ > ______________ > ______________ > ______

   b. Rank red, indigo, violet, and green visible light in order from smallest frequency to largest frequency.

   ______________ < ______________ < ______________ < ______
1. (6 points) Consider the four waves shown below.

![Wave Diagram]

a. Use the letters to rank them in order from shortest wavelength to longest wavelength.

_______ < ________ < __________ < _____________

b. Use the letters to rank them in order from smallest frequency to largest frequency.

_______ < ________ < __________ < _____________

c. Use the letters to rank them in order from largest energy to smallest energy.

_______ > ________ > __________ > ___________

2. (4 points)

a. Rank microwaves, blue visible light, red visible light, and ultraviolet light in order from the longest wavelength to the shortest wavelength.

________________  >  _______________  > ______________> _________

b. Rank yellow, indigo, blue, and orange visible light in order from largest frequency to smallest frequency.

________________  >  _______________  > ______________> _________
1. (6 points) Consider the four waves shown below.

   a. Use the letters to rank them in order from longest wavelength to shortest wavelength.
      ____ > ____ > ____ > ____

   b. Use the letters to rank them in order from largest frequency to smallest frequency.
      ____ > ____ > ____ > ____

   c. Use the letters to rank them in order from largest energy to smallest energy.
      ____ > ____ > ____ > ____

2. (4 points)
   a. Rank microwaves, orange visible light, violet visible light, and X-rays in order from the shortest wavelength to the longest wavelength.
      __________ < __________ < __________ < ________

   b. Rank orange, indigo, red, and green visible light in order from largest frequency to smallest frequency.
      __________ > __________ > __________ > ________
1. (6 points) Consider the four waves shown below.

![Wave Diagram]

a. Use the letters to rank them in order from shortest wavelength to longest wavelength.
   _______ < _______ < _______ < _______

b. Use the letters to rank them in order from smallest frequency to largest frequency.
   _______ < _______ < _______ < _______

c. Use the letters to rank them in order from largest energy to smallest energy.
   _______ > _______ > _______ > _______

2. (4 points)
   a. Rank infrared waves, yellow visible light, green visible light, and microwaves in order from the longest wavelength to the shortest wavelength.
      _____________ > _____________ > _____________ > _______

   b. Rank yellow, indigo, violet, and green visible light in order from largest frequency to smallest frequency.
      _____________ > _____________ > _____________ > _______