1. Number your answer (1) through (6) for each of the following white blood cells, and briefly state in a few words what each does to defend us against pathogens and/or parasites: (1) Plasma B cell (2) Cytotoxic T cell (3) eosinophil (4) basophil (5) neutrophil (6) monocyte
   My answer:
   - Plasma B cell: lymphocyte that produces antibodies | Immature B Cells turn into plasma B cells from Helper T Cells
   - Cytotoxic T cell: once educated by the helper T cell, immature/naive T cells can seek out and destroy cells infected with that specific pathogen
   - eosinophil: release toxic proteins against bacteria and parasites
   - basophil: release histamine (dilates vessels) against parasites to increase cell response
   - neutrophil: change their shape and crawl towards the wounded cells to eat up the debris, including the mess left by the natural killer cells, becoming phagocytes
   - monocyte: grow and eat up the large debris the neutrophils can't handle becoming macrophages, even phagocytes

2. Repeatedly in the course we have covered cancers of different organs. In a general sense, describe what happens to a cell to transform it into a cancer cell, and the two differences in life stages that allow cancer to out-live other cells.
   My answer: For a normal cell to become cancerous there are multiple stages. Normally a damaged cell would die out through apoptosis or just become a different cell because an organ needed it. Cancer forms from multiple damaged cells constantly going through mitosis and apoptosis not happening.

3. List three autoimmune diseases introduced in this course, and describe what part of the body is under attack for each of these diseases.
   My answer:
   - Multiple Sclerosis: body attacks the glial cells that produce the myelin that wraps around axion
   - Rheumatoid Arthritis: inflammation and fluid building up at the joints, like fingers
   - Type 1 diabetes/Insulin Dependent Diabetes: pancreas not producing sufficient insulin due to the body attacking the islets

4. Describe what happens in an allergic response. Include: allergens, antibodies, mast cells, histamine, and blood vessels in your answer.
   My answer:
   - Mast cell: release histamine to tell body to fight
   - In the blood vessels, Plasma B Cell produces antibodies when come into contact with allergens, but because it is not a pathogen, the antibodies end up sticking to mast cells. If the allergen comes back, the antibodies tell the mast cell to release histamine
   - Histamine also triggers vasodilation, leading to inflammation
   - Allergies can develop if there is too much consumption