REVIEW SHEET

The Lymphatic System and Immune Response

Name _____ Lab Time/Date _____

The Lymphatic System

1. Match the terms below with the correct letters on the diagram.

_____ 1. axillary lymph nodes

_____ 2. cervical lymph nodes

_____ 3. cisterna chyli

_____ 4. inguinal lymph nodes

_____ 5. lymphatic vessels

_____ 6. Peyer's patches (in small intestine)

_____ 7. red bone marrow

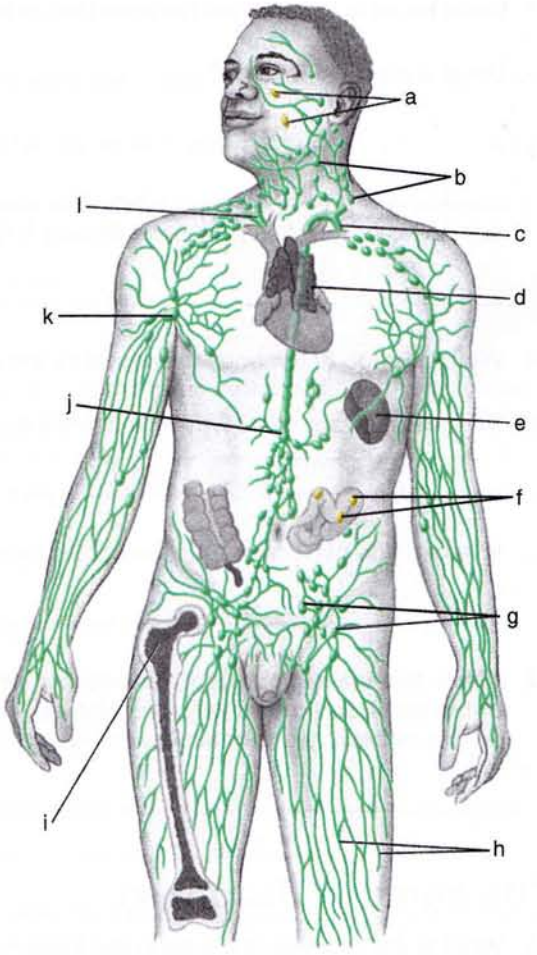
_____ 8. right lymphatic duct

_____ 9. spleen

_____ 10. thoracic duct

_____ 11. thymus

_____ 12. tonsils



2. Explain why the lymphatic system is a one-way system, whereas the blood vascular system is a two-way system.

_____

_____

3. How do lymphatic vessels resemble veins? _____

How do lymphatic capillaries differ from blood capillaries? _____

_____

4. What is the function of the lymphatic vessels? _____

_____

5. What is lymph? _____

6. What factors are involved in the flow of lymphatic fluid? _____

_____

7. What name is given to the terminal duct draining most of the body? _____

8. What is the cisterna chyli? _____

_____

How does the composition of lymph in the cisterna chyli differ from lymph composition in the general lymphatic stream? Use your text or other reference if necessary.

_____

9. Which portion of the body is drained by the right lymphatic duct? _____

10. Note three areas where lymph nodes are densely clustered: _____,

_____, and _____

11. What are the two major functions of the lymph nodes? _____

and _____

12. The radical mastectomy is an operation in which a cancerous breast, surrounding tissues, and the underlying muscles of the anterior thoracic wall, plus the axillary lymph nodes, are removed. After such an operation, the arm usually swells, or becomes edematous, and is very uncomfortable—sometimes for months. Why?

_____

The Immune Response

13. What is the function of B cells in the immune response? _____

_____

14. What is the function of T cells in the immune response? _____

_____

_____

15. Define the following terms related to the operation of the immune system.

immunological memory: _____

_____

specificity: _____

_____

self-tolerance _____

_____

autoimmune disease: _____

_____

Studying the Microscopic Anatomy of a Lymph Node, the Spleen, and a Tonsil

16. In the box below, make a rough drawing of the structure of a lymph node. Identify the cortex area, germinal centers, and medulla. For each identified area, note the cell type (T cell, B cell, or macrophage) most likely to be found there.

17. What structural characteristic ensures a *slow* flow of lymph through a lymph node? _____

_____

Why is this desirable? _____

_____

18. What similarities in structure and function are found in the lymph nodes, spleen, and tonsils? _____

_____

_____