Name _____ Hour _____
Anatomy/Physiology Date _____

Ch. 11 Review - Blood

____ 1. Which one of the following substances is <u>not</u> a part of the plasma?
A. Hormones
B. Salts
C. Nutrients
D. Wastes
E. All of the above are part of the plasma

2. The normal volume of blood in an adult is about _____

3. The pH of blood is normally _____

4. Another name for white blood cells is _____

5. Another name for platelets is _____

____ 6. The laboratory test called *hematocrit* tells the physician:
A. The volume of white cells in a blood sample
B. The volume of red cells in a blood sample
C. The volume of platelets in a blood sample
D. The volume of plasma in a blood sample

____7. A critical component of hemoglobin is:
A. Potassium
B. Calcium
C. Sodium
D. Vitamin K
E. Iron

____8. Which one of the following types of cells is <u>not</u> a granular leukocyte?
A. Neutrophil
B. Monocyte
C. Basophil
D. Eosinophil

____9. Red bone marrow forms all kinds of blood cells except some:
A. Platelets and basophils
B. Lymphocytes and monocytes
C. Red blood cells
D. Neutrophils and eosinophils

____10. The hematocrit value for red blood cells is _____%.
A. 75
B. 60
C. 50
D. 45
E. 35

11. List the agranular leukocytes

12. List the granular leukocytes

13. The practice of using blood transfusions to increase oxygen delivery to muscles during athletic events is called:

14. One of the most useful and frequently performed clinical blood tests is called the _____

15. If a blood cell has no nucleus and is shaped like a biconcave disc, then the cell most likely is a _____

____16. An unusually low white blood cell count would be termed:

A. Leukemia
B. Leukopenia
C. Leukocytosis
D. Anemia
E. None of the above is correct

17. Most of the oxygen transported in the blood is carried by _____

18. The most numerous of the leukocytes are the _____

____19. If part of a blood clot dislodges and circulates through the bloodstream, the dislodged part is called a/an:

A. Thrombus
B. Thrombosis
C. Anticoagulant
D. Clotting factor
E. Embolus

20.

Blood Type	Antigen Present in RBC	Antibody Present in Plasma
A	_____	Anti - B
B	B	_____
AB	_____	None
O	None	_____

21. Blood is divided into 2 categories, what are they and their percentages?

22. What 3 things make up plasma?

23. What 3 things make up formed elements?

24. What are albumins? Globulins? And Fibrinogens?

25. What are the 5 types of leukocytes? And function does each perform?

26. On average, how many red blood cells are in a millimeter^3 of blood? _____

27. What are the 2 types of lymphocytes? What purpose do each play?

Fill in the blanks:

33. An _____ is a substance that can stimulate the body to make antibodies.

34. An _____ is a substance made by the body in response to stimulation by an antigen.

35. Many antibodies react with their antigens to clump or _____ them.

36. If a baby is born to an Rh-negative mother and Rh-positive father, it may develop what disease? How can this disease be fatal?

37. The term "Rh" is used because the antigen was first discovered in the blood of a _____

38. The universal donor blood is _____

39. The universal recipient blood is _____

40. What is the most common blood type? _____ The most rare? _____

41. What are the life expectancies of the various types of blood cells?

42. List the plasma proteins and their functions.

43. List the 5 leukocytes and their basic functions.

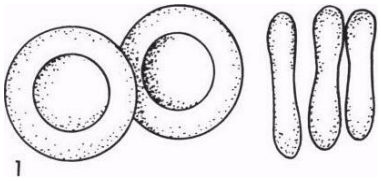
APPLYING WHAT YOU KNOW

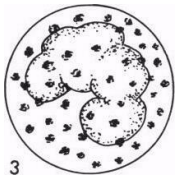
44. Mrs. Payne's blood type is 0 positive. Her husband's type is 0 negative. Her newborn baby's blood type is 0 negative. Is there any need for concern with this combination?

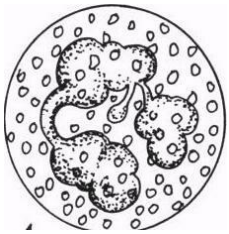
45. Colleen was a teenager with a picky appetite. She loved junk food and seldom ate properly. She complained of being tired all the time. A visit to her doctor revealed a hemoglobin of 10 and RBCs that are classified as *hypochromic.* What condition does Colleen have?

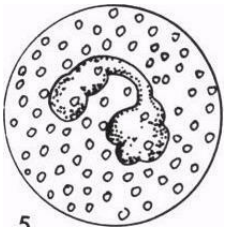
46. Mr. Minkin complained of fever and a sore throat. His doctor said that his lymphocyte and monocyte count was elevated and that under the microscope his lymphocytes were irregularly shaped. The tenderness in his spleen led the doctor to believe that he might have a virus. Do you know the name of that virus? (Hint: See Appendix B, Table 2)

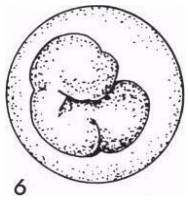
Identify

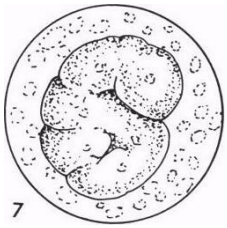












Use page p 299 -Anemia

	Normal Values
Folate Content:	2-10 ng/ml
Hematocrit:	Women: 38%-47% Men: 40%-54%
Hemoglobin Content:	Women: 12-16 g/100 ml Men: 13-18 g/100 ml
Iron Content:	50-150 µg/100 ml
RBC Count (volume):	Women: 4.2-5.4 million/mm^3 Men: 4.5-6.2 million/mm^3
Vitamin B_{12} Content:	200 to 900 pg/ml

Patient A: Female	**Values**
Folate Content:	3.2 ng/ml
Hematocrit:	37 %
Hemoglobin Content:	11.4 g/100 ml
Iron Content:	162 µg/100 ml
RBC Count (volume):	5.6 million/mm^3
Vitamin B_{12} Content:	280 pg/ml
Diagnosis:	

Patient B: Male	**Values**
Folate Content:	4.6 ng/ml
Hematocrit:	36 %
Hemoglobin Content:	12.4 g/100 ml
Iron Content:	135 µg/100 ml
RBC Count (volume):	6.15 million/mm^3
Vitamin B_{12} Content:	805 pg/ml
Diagnosis:	

Blood Disorders:

48. What is the result of iron deficiency anemia to hemoglobin? What does it do to the body?

49. When red blood cells become distorted and easily broken is known as _____

50. What is the difference between leukopenia and leukocytosis?

Patient 1: Caucasian Male

Came to the emergency room with complaints that include coughing, cramping, abdominal pain, bloating, flatulence and diarrhea.

COMPLETE BLOOD COUNT W/ DIFF

WBC	5.2 Thous/mm^3	4.7 – 6.1
RBC	4.15 Mil/ mm^3	4.3 – 5.7
HGB (HEMOGLOBIN)	14.5 g/dl	13.2 – 17.3
HCT (HEMATOCRIT)	41.2 %	39 – 49
MCV	88 fl	80 - 97
MCH	32.4 pg	26 – 36
MCHC	35.3 %	31 – 37
RDW	11.8 %	11 – 15
PLATELET COUNT	172 thous/mm^3	150 - 400
MPV	7.6 fl	7.5-11.5
DIFFERENTIAL		
TOTAL NEUTROPHILS %	56.3 %	55.0 – 70.0
TOTAL LYMPHOCYTES %	27.7 %	25.0 – 40.0
MONOCYTES %	3.4 %	3.0 – 8.0
EOSINOPHILS %	12.6 %	0.0 – 3.0
BASOPHILS %	0 %	0.0 – 1.0

51 Diagnosis: _____

Patient 2: Caucasian Female

Came to the doctor's office complaining of fever of 101°F and chills, sore throat, swollen lymph nodes, headache, body aches. and fatigue and a lack of energy. Pain in the upper left part of the abdomen.

COMPLETE BLOOD COUNT W/ DIFF

WBC	5.2 Thous/mm^3	4.5 – 10
RBC	4.51 Mil/ mm^3	4.2 – 5.4
HGB (HEMOGLOBIN)	14.5 g/dl	12 – 15
HCT (HEMATOCRIT)	41.2 %	36 – 44
MCV	88 fl	80 - 100
MCH	32.4 pg	26 – 34
MCHC	35.3 %	31 – 37
RDW	11.8 %	11 – 15
PLATELET COUNT	172 thous/mm^3	100 - 450
MPV	7.6 fl	7.5-11.5
DIFFERENTIAL		
TOTAL NEUTROPHILS %	62.1 %	54.0 – 62.0
TOTAL LYMPHOCYTES %	52.1 %	24.0 – 44.0
MONOCYTES %	18.9 %	3.0 – 6.0
EOSINOPHILS %	14.6 %	0.0 – 3.0
BASOPHILS %	0.3 %	0.0 – 1.0

52 Diagnosis: _____

53. A person is blood type B^+, they got in a car accident and need some blood. What types if blood can they receive safely? (½ pt)

54. What is erythroblastosis fetalis. Under what circumstances can this occur?

55. A mother who has blood type A and a man has blood type B, what are the probabilities of them having a child who is blood type B?

56. A mother who has blood type O- has a child who is blood type O+. What is the probability that a man who is blood type B- is the father?