Respiratory Physiology

1. Regarding the respiratory system, list ALL of the parts of the conducting zone:
   ______________________________________________________________________________________

2. List ALL parts of the respiratory zone:
   ______________________________________________________________________________________

3. What is the primary problem (what is lacking) in babies with Infant respiratory distress syndrome (IRDS)?
   ______________________________________________________________________________________

4. When the diaphragm contracts it causes what to happen to:
   A) lung volume: ___________________________
   B) intrapulmonary pressure: ___________________________

5. When the diaphragm relaxes it causes what to happen to:
   A) lung volume: ___________________________
   B) intrapulmonary pressure: ___________________________

6. What does lung compliance mean? __________________________________________________________

7. What does lung recoil mean? ________________________________________________________________

8. The membrane covering the lungs is called the ______________________________________

9. What is the primary cause (physiologically) in a pneumothorax? ________________________________

10. Give 2 causes of pulmonary fibrosis:
    A) _______________________________________________
    B) _______________________________________________

11. What did UNC scientists, who published in the *American Journal of Respiratory and Critical Care Medicine*, find elevated in the lungs of both people who smoked and used vapes? ______________________________________

12. Give an example of an Obstructive respiratory disorder, and explain what is the clinical presentation of someone with that disorder (what problems are they experiencing)?
    ______________________________________________________________________________________
13. Give an example of a restrictive respiratory disorder, and explain what is the clinical presentation of someone with that disorder?

__________________________________________________________________________________________

14. How does mesothelioma lead to pulmonary fibrosis?

__________________________________________________________________________________________

15. Why is emphysema called an “air-trapping disorder”?

__________________________________________________________________________________________

16. A decrease in surfactant will cause
   A. increased surface tension and decreased gas exchange within alveolar sacs.
   B. increased surface tension and increased gas exchange within alveolar sacs.
   C. decreased surface tension and increased gas exchange within alveolar sacs.
   D. decreased surface tension and decreased gas exchange within alveolar sacs.

16. What respiratory hemoglobin disorder is associated with blue baby syndrome from drinking nitrate-contaminated formula?

__________________________________________________________________________________________

17. What is the problem going on with neonatal jaundice?

__________________________________________________________________________________________

18. What respiratory hemoglobin disorder is associated with breathing in carbon monoxide gas?

__________________________________________________________________________________________

19. Which specific part of the brain is involved in conscious control of breathing?

__________________________________________________________________________________________

20. When blood pH drops below normal (blood CO2 content is high),
   A) What is the integrating center that responds?
   B) What does that integrating center do to minute ventilation to correct the blood pH?

__________________________________________________________________________________________

21. If the partial pressure of dissolved oxygen (PO2) within an arterial capillary is 100 mmHg and the PO2 within skeletal muscle tissue is 98 mmHg the oxygen will move from the muscle tissue into the arteriole.
   A. TRUE
   B. FALSE

22. Which type of non-small cell lung cancer is the most common, tends to start in the mucus glands lining the outer margins of the lungs?

__________________________________________________________________________________________

23. What is the 5-year survival rate for small cell lung cancer that is localized?

__________________________________________________________________________________________

24. What is the 5-year survival rate for someone with large cell lung cancer that is regional?

__________________________________________________________________________________________

25. What is the intrapulmonary pressure (in mmHg)
   A) during inhalation?
   B) during exhalation?
26. What is obstructive atelectasis?
_________________________________________________

27. WHY is using a rescue inhaler, exclusively, not a good treatment for asthma – based on our lecture?
_________________________________________________

28. What does hypoventilation, and the resulting blood acidosis, do to minute ventilation in order to fix the problem?
_________________________________________________

29. What does hyperventilation, and the resulting blood alkalosis, do to minute ventilation in order to fix the problem?
_________________________________________________

30. A pulmonary disease involving a sex-linked inherited disorder in Cl- ion channels, which causes buildup of thick mucus within alveoli, increased intra-alveolar surface tension, and decreased gas exchange in the lungs.
   A. Emphysema       B. COPD       C. Pneumothorax   D. Cystic fibrosis   E. Asthma