Self-Assessment RSPT 1050: MODULE I – Ventilation/Perfusion Ratios

1. List three clinical conditions in which there is **no hypoxemia**, but the patient has **hypoxia**.

    a. **CARBON MONOXIDE POISONING**
    b. **INCREASED LEVELS OF METHEMOGLOBIN**
    c. **CYANIDE POISONING**

2. How is the $\dot{V}/\dot{Q}$ ratio calculated? **ALVEOLAR VENTILATION DIVIDED BY CARDIAC OUTPUT**

3. Which portion of the lung has a high $\dot{V}/\dot{Q}$ ratio indicating increased deadspace? **APICES**

4. Name three clinical situations that will change the normal distribution of ventilation in the lung.

    a. **BODY POSITION**
    b. **INCREASED AIRWAY RESISTANCE**
    c. **REDUCED LUNG COMPLIANCE**

5. Ventilation will shift away from areas with: (Circle all that apply)

    a. High compliance
    b. Low compliance
    c. High airway resistance
    d. Low airway resistance

7. Define Deadspace. **AREAS WHERE VENTILATION EXCEED PERFUSION AND THE $\dot{V}/\dot{Q}$ RATIO IS GREATER THAN 0.8.**

8. List two clinical conditions that result in increased deadspace.
    a. **PULMONARY EMBOLISM**
    b. **REDUCED CARDIAC OUTPUT**

9. A true alveolar deadspace in which blood flow to the alveolus is 0 would result in a $\dot{V}/\dot{Q}$ ratio

    a. Greater than 0.8
    b. Less than 0.8
    c. Infinity
    d. 0.8

10. The volume of any breathing device in which exhaled gas remains and is inspired on the next breath is called **MECHANICAL DEADSPACE**.