1. An increase in sympathetic activity will cause airway diameter to:
   a. Increase
   b. Decrease
   c. Stay the same

2. Increased activity of the sympathetic nervous system will cause BP to:
   a. Increase
   b. Decrease
   c. Stay the same

3. Atenolol is a drug that prevents norepinephrine from binding to the beta adrenergic receptors on the heart. Atenolol would cause the amount of time in between heart beats to:
   a. Increase
   b. Decrease
   c. Stay the same

4. Increased activity of the parasympathetic nervous system will cause heart rate to:
   a. Increase
   b. Decrease
   c. Stay the same

5. Increased activity of the sympathetic nervous system will cause pupil diameter to:
   a. Increase
   b. Decrease
   c. Stay the same

6. The length of the parasympathetic preganglionic axon is _________________ the length of the parasympathetic postganglionic axon.
   a. Longer than
   b. Shorter than
   c. The same as

7. The duration of the sympathetic response is _________________ the duration of the parasympathetic response.
   a. Longer than
   b. Shorter than
   c. The same as

8. Sympathetic preganglionic axons that pass through the sympathetic trunk without synapsing form the ________________.
   a. Gray ramus communicans
   b. Adrenal nerve
   c. Splanchnic nerve
   d. White ramus communicans
   e. None of the above
9. Which of the following is TRUE?
   a. The ANS is under voluntary control.
   b. The sympathetic division of the ANS is known as the “rest and digest division.”
   c. The parasympathetic division of the ANS is also known as the craniosacral division.
   d. The somatic nervous system is involuntary
   e. None of the above

**Use the picture below for the next 3 questions.**

10. The structure labeled with the arrow in the above picture is a ____________________.
    a. Gray ramus communicans
    b. White ramus communicans
    c. Ventral root
    d. Paravertebral ganglion
    e. Prevertebral ganglion

11. How many ganglia are visible in the above picture?
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5

12. What part of the spinal cord is depicted in the above picture?
    a. Cranial
    b. Cephalic
    c. Thoracic
    d. Sacral
    e. Coccygeal
13. Found on the heart and binds norepinephrine
14. Found on the heart and binds ACh
15. Found on postganglionic sympathetic neurons and binds to ACh
16. Found on the motor end plate

17. Which of the following neurons release norepinephrine?
   a. Sympathetic preganglionic neurons
   b. Parasympathetic preganglionic neurons
   c. Sympathetic postganglionic neurons
   d. Parasympathetic postganglionic neurons
   e. Somatic motor neurons

18. Which of the following is NOT generally associated with the parasympathetic nervous system?
   a. Diuresis
   b. Penile erection
   c. Ejaculation
   d. Defecation
   e. Increased activity of the stomach and intestines

19. Which of the following is NOT TRUE?
   a. The sympathetic division of the ANS is known as the thoracolumbar division.
   b. Sympathetic ganglia are usually located near the spinal cord.
   c. Parasympathetic nerves innervate arrector pili and blood vessels in the dermis
   d. Sympathetic nerves innervate the smooth muscle in arteries and veins.
   e. Sympathetic preganglionic cell bodies are found in thoracic spinal cord lateral horns.

20. The sympathetic nervous system could be anatomically referred to as the:
   a. Craniosacral division
   b. Lumbar-sacral division
   c. Thoracolumbar division
   d. Thoracosacral division
   e. Paravertebral chain

21. The primary neurotransmitter of the parasympathetic nervous system is:
   a. Epinephrine
   b. Norepinephrine
   c. Substance P
   d. Calcium
   e. Acetylcholine
22. Which of the following would NOT be expected during a “fight or flight” response?
   a. Increase in pupil diameter
   b. Increase in digestive activity
   c. Increase in heart rate
   d. Increases in plasma epinephrine levels
   e. Increase in blood pressure

132. The above diagram depicts the parasympathetic motor pathway and the somatic motor pathway. The axon terminals of cell A would release _____________. The axon terminals of cell C would release ____________. The axon terminals of cell D would release ____________.
   a. Acetylcholine – acetylcholine – acetylcholine
   b. Acetylcholine – norepinephrine – acetylcholine
   c. Acetylcholine – acetylcholine – norepineprine
   d. Acetylcholine – norepinephrine – norepineprine
   e. Norepinephrine – norepinephrine – norepineprine

133. There are 46 sympathetic paravertebral ganglia.
   a. True
   b. False

134. Which of the following is the most voluntary?
   a. Autonomic NS
   b. Peripheral NS
   c. Somatic NS
   d. Sympathetic NS
   e. Parasympathetic NS