

1. The muscle which extends the elbow joint while doing pushups is the:
  - A. subclavius
  - B. pectoralis major
  - C. triceps brachii
  - D. biceps brachii
  - E. brachialis
  
2. The dorsal interossei \_\_\_\_\_ the toes, while the plantar interossei \_\_\_\_\_ the toes.
  - A. abduct; adduct
  - B. adduct; abduct
  - C. flex; extend
  - D. extend; flex
  
3. The posterior muscles of the leg
  - A. evert and dorsiflex the foot
  - B. extend the leg and plantar flex the foot
  - C. dorsiflex the foot and extend the toes
  - D. plantar flex the foot and flex the toes
  
4. All of the following are rotator cuff muscles except
  - A. supraspinatus
  - B. teres minor
  - C. teres major
  - D. subscapularis
  
5. In terms of adduction and abduction of the arm, which muscle opposes the pectoralis major and latissimus dorsi?
  - A. serratus anterior
  - B. infraspinatus
  - C. coracobrachialis
  - D. deltoid
  
6. Which muscle enables you to pucker your lips for a kiss?
  - A. epicranium
  - B. buccinator
  - C. orbicularis oris
  - D. orbicularis oculi
  
7. Unilateral contraction of the \_\_\_\_\_ results in lateral flexion and rotation of the head to the opposite side; bilateral contraction flexes the head and neck.
  - A. sternocleidomastoid
  - B. splenius capitis and cervicis
  - C. longissimus capitis
  - D. superior oblique
  - E. splenius
  
8. Adductor magnus, adductor longus and adductor brevis are parts of a large muscle mass of the:
  - A. anterior compartment of the thigh
  - B. posterior compartment of the thigh
  - C. medial compartment of the thigh
  - D. lateral compartment of the thigh
  - E. none of the above

9. The pectoralis major muscle participates in:
- A. extending the humerus
  - B. adducting the humerus
  - C. retracting the scapula  $\times$
  - D. protracting the scapula  $\times$
  - E. rotating the radius  $\times$
10. Muscles of facial expression:
- A. generally originate from bones of the facial skull
  - B. generally insert into the skin or into other muscles, rather than bones
  - C. are innervated by the facial (VII) nerve
  - D. A and B are correct
  - E. A, B and C are correct
11. The muscles that flex the leg and extend the thigh:
- A. are found in the posterior compartment of the thigh
  - B. include the semimembranosus and the semitendinosus
  - C. are collectively called the hamstrings
  - D. A and B are correct
  - E. A, B and C are correct
12. Which extrinsic eye muscle(s) elevate the eyes?
- A. superior rectus only
  - B. superior oblique only
  - C. superior rectus and inferior oblique
  - D. inferior rectus and superior oblique
13. Each muscle fiber is directly surrounded by connective tissue called the \_\_\_\_\_.
- A. perimysium
  - B. fascia
  - C. endomysium
  - D. epimysium
14. When the term biceps, triceps or quadriceps forms part of a muscle's name, you can assume that:
- A. the muscle has two, three, or four origins, respectively.
  - B. the muscle is able to change direction twice, three times, or four times faster than other muscles, respectively.
  - C. the muscle has two, three, or four functions, respectively.
  - D. the muscle has two, three, or four insertions, respectively.
  - E. the muscle is composed of two, three or four fascicles, respectively.
15. Which arrangement best describes a bipennate muscle?
- A. The muscle fibers feed in on an angle to a long tendon from both sides
  - B. The muscle fibers feed in on an angle to a long tendon from one side
  - C. The muscle fibers on one side of a tendon feed into it at a certain angle and muscle fibers on the other side of the tendon feed into it at the opposite angle
  - D. The muscle fibers feed in on to a long tendon from all directions.

16. Which of the following statements is TRUE?

- A. The chewing muscle covering the ramus of the mandible is the buccinator.
- B. A prime mover of the arm that acts in adduction would be the deltoid muscle.
- C. The biceps brachii flexes the elbow and supinates the forearm.
- D. During inspiration, the first rib is fixed in place by the splenius muscle.
- E. For the upper limb, a muscle that crosses on the anterior side of the joint produces extension.

17. Which of the following muscle names and their naming descriptors is NOT correctly matched?

- A. adductor brevis // short muscle that moves a bone closer to the midline
- B. rectus abdominis // muscle with fibers parallel to the midline of the abdomen ✓
- C. levator scapula // muscle that raises the scapula ✓
- D. intercostal // muscle associated with the rib cage ✓
- E. All of the above are correctly matched.

18. In the wrist and ankle, entire groups of tendons are enclosed by a strong band of connective tissue called a \_\_\_\_\_.

- A. retinaculum
- B. tendon sheath ←
- C. aponeurosis
- D. ligament

19. Which of the following statements is/are FALSE?

- A. Plantar flexion at the ankle joint is accomplished by the soleus.
- B. Movements of the thigh are accomplished by muscles anchored to the pelvic girdle.
- C. The broadest muscle of the back is the trapezius.
- D. The internal oblique muscles are superficial to the transversus abdominis muscles.
- E. Both A and C are false

20. The trapezius, levator scapulae, and \_\_\_\_\_ are the three muscles of the posterior group that act on the pectoral girdle.

- A. serratus anterior
- B. pectoralis minor
- C. subclavius
- D. rhomboid

21. Choose the muscle that does not belong to the quadriceps femoris group of the anterior thigh.

- A. rectus femoris
- B. vastus lateralis
- C. vastus medialis
- D. biceps femoris

22. The thalamus does all of the following except

- A. processes and relays sensory information to the primary sensory cortex
- B. filters incoming information and forwards relatively little to the cerebrum
- C. receives and processes sensory input from olfactory receptors in the nose
- D. sends signals about conscious awareness of emotional states to frontal lobes

23. Which of the following statements is TRUE?
- A. The primary motor area of the cerebral cortex is located on the post central gyrus
  - B. The optic cranial nerve is a mixed nerve.
  - C. A first-order neuron extends from the sensory receptor to the central nervous system.
  - D. In the nervous system, the term nuclei means a collection of nerve cells outside the CNS.
  - E. The canal connecting the third and fourth ventricles and running through the midbrain is the foramen of Monro.
24. Which of the following statements concerning the prefrontal cortex is FALSE?
- A. it is a complicated region associated with complex learning
  - B. its development is very dependent on positive and negative feedback from the environment
  - C. it is involved with the development of judgment, reasoning and conscience
  - D. it is not fully mature in children
  - E. it occupies the posterior portion of the frontal lobe
25. Which of the following cranial nerves is exclusively sensory?
- A. optic (II)
  - B. facial (VII)
  - C. hypoglossal (XII)
  - D. trochlear (IV)
26. Which cranial nerves innervate the extrinsic eye muscles?
- A. abducens, trigeminal, and trochlear
  - B. olfactory, oculomotor, and hypoglossal
  - C. trigeminal, glossopharyngeal, and oculomotor
  - D. oculomotor, trochlear, and abducens
27. The brain area(s) associated with maintaining alertness of the cerebral cortex is/are the:
- A. thalamus
  - B. reticular formation
  - C. pyramids
  - D. limbic system
  - E. B and D
28. Damage to the cerebellum would result in:
- A. loss of memory
  - B. uncoordinated movement
  - C. inability to dream
  - D. altered pituitary function
  - E. inability to control body temperature
29. Which spinal nerves go directly to the tissues they supply without forming a plexus?
- A. C1 through C4<sup>↓</sup>
  - B. C4 through T1<sup>↓</sup>
  - C. T2 through T12
  - D. L1 through L5<sup>×</sup>
  - E. S1 through S5<sup>↓</sup>

30. Spinal nerves are considered mixed, which means that:
- A. they contain both nerves and tracts
  - B. they contain both gray and white matter
  - C. they contain both afferent and efferent nerves
  - D. they use multiple types of neurotransmitters
  - E. a single nerve arises from multiple segments of the spinal cord
31. Damage to the auditory association area would result in an inability to:
- A. hear
  - B. be aware of the loudness of a sound
  - C. repeat what one hears
  - D. hearing with both ears
  - E. understand what one hears
32. Which of the following statements regarding spinal nerves is TRUE?
- A. The dorsal ramus carries only sensory information while the ventral ramus carries only motor information.
  - B. The dorsal root carries information only toward the spinal cord while the ventral root carries information away from the spinal cord.
  - C. The dorsal ramus only carries information toward the posterior compartment of the body while the ventral ramus only carries information toward the anterior compartment of the body.
  - D. The dorsal root is equivalent to the dorsal ramus.
  - E. The dorsal ramus carries only motor information while the ventral ramus carries only sensory information.
33. Neurons can be classified structurally by the number of processes extending from their cell body. Which is the most common neuron type in humans?
- A. tripolar
  - B. bipolar
  - C. unipolar
  - D. all neurons have the same number of processes
  - E. multipolar
34. Schwann cells are functionally similar to:
- A. ependymal cells
  - B. microglia
  - C. oligodendrocytes
  - D. astrocytes
35. Which type of nerve fibers link areas WITHIN a cerebral hemisphere?
- A. projection fibers
  - B. corpus callosum
  - C. association fibers
  - D. commissural fibers
  - E. none of the above
36. The tentorium cerebelli is:
- A. the deep groove between the precentral and postcentral gyri
  - B. the lobe of the cerebellum not visible on the surface
  - C. an extension of the dura mater separating the cerebral hemispheres
  - D. an extension of the dura mater separating the cerebellar hemispheres
  - E. an extension of the dura mater separating the cerebrum from the cerebellum

37. A tumor is growing in the left lateral horns of several segments of a patient's spinal cord. How might these tumors affect the patient?
- A. The patient may not be able to feel somatic sensations from the chest down.
  - B. The patient may not be able to move the lower extremities.
  - C. The patient may have difficulty regulating cardiac and smooth muscle contractions.
  - D. A and B
38. Which of the following is/are TRUE concerning the sensory areas of the cerebral cortex?
- A. Secondary sensory areas help integrate sensory information into meaningful patterns.
  - B. The primary sensory areas are anterior to the central sulcus.
  - C. The primary sensory areas have the least direct contact with sensory receptors.
  - D. A and B are correct.
  - E. A, B and C are correct.
39. The primary visual cortex is located in the:
- A. occipital lobe
  - B. frontal lobe
  - C. temporal lobe
  - D. parietal lobe
  - E. insular lobe
40. The ..... nerve is NOT a branch of the trigeminal nerve.
- A. ophthalmic
  - B. maxillary
  - C. cervical
  - D. mandibular