1. Severe atrophy of the muscles of the thenar eminence could be indicative of pathology to the ________ nerve.
   a. radial
   b. median
   c. ulnar
   d. b or c

2. According to Dr. Fletcher and the course notes, the MCP joints (2-5) are
   a. uniaxial hinge joints.
   b. uniaxial pivot joints.
   c. nonaxial plane joints.
   d. biaxial condyloid joints.
   e. biaxial saddle joints.

3. The muscle which flexes the four fingers is the
   a. flexor digiti minimi
   b. flexor digitorum superficialis
   c. extensor digitorum
   d. flexor pollicis longus
   e. flexor pollicis brevis

4. Muscles of the hypothenar eminence act on the thumb.
   a. true
   b. false

5. Which of the following joints is uniaxial?
   a. 2nd distal interphalangeal joint (DIP)
   b. 2nd metacarpophalangeal joint (MCP)
   c. 1st Carpometacarpal (CMC)
   d. none of the above

6. There is a total of ____ synovial joints from the knuckles on down (count all MCP & IP joints).
   a. 6
   b. 10
   c. 14
   d. 15

7. Abduction of the CMC joint of the thumb occurs in what plane?
   a. frontal plane
   b. sagittal plane
   c. horizontal plane
   d. scapular plane
8. The abductor pollicis longus and extensor pollicis brevis are included in which muscle group in the forearm?
   a. superficial muscle group - anterior side
   b. superficial muscle group - posterior side
   c. deep muscle group - anterior side
   d. deep muscle group - posterior side

9. An attachment exists between a flexor digitorum profundus tendon and the extensor tendon mechanism via a lumbrical muscle.
   a. True  
   b. False

10. The extensor tendon expansion (hood) of the fingers forms just proximal to the DIP joint (but distal to the PIP) of each finger.
   a. True  
   b. False

11. The lateral bands of the extensor tendon mechanism unite and insert on the middle phalanx to extend the PIP.
   a. True  
   b. False

12. The tendons bordering the anatomical snuffbox include
   a. two extensor tendons and one abductor tendon
   b. two abductor tendons and one extensor tendon
   c. one extensor tendon, one abductor tendon, and one flexor tendon

13. The rule of moving concave surfaces is applied to which of the following joints?
   a. 1st CMC joint
   b. 5th MCP joint
   c. 1st MCP joint
   d. all of the above
   e. b and c only

14. Normally, the combined total active range of motion flexion at the MCP, PIP, and DIP of the 5th digit is
   a. in excess of 200 degrees.
   b. between 150 and 200 degrees.
   c. less than 150 degrees.

15. The flexor digitorum superficialis, flexor digitorum profundus, and the lumbricles all play a role in flexion of the MCP joints of the fingers.
   a. True  
   b. False

16. The carpal tunnel contains
   a. only 4 tendons and 1 nerve
   b. 1 nerve, 1 artery, 5 tendons
   c. 9 tendons
   d. only 3 tendons and 1 nerve

17. The fibrocartilage plate found at all MCP and IP joints is called the _______ plate.
   a. dorsal
   b. ventral
   c. carpal
   d. volar
   e. interosseus
18. Carrying a suitcase/briefcase by the handle typically requires a _________ power grip.
   a. spherical
   b. hook
   c. pad to pad
   d. cylindrical

19. The abductor pollicis longus has which of the following concentric actions?
   a. abduction of 1st CMC joint
   b. abduction of 2nd MCP joint
   c. abduction of 1st MCP joint
   d. abduction of 1st digit IP joint

20. The 3rd metacarpal is used for goniometer alignment in the measurement of
   a. ulnar deviation of the wrist
   b. flexion of the MCP of the 2nd finger
   c. abduction of the 1st CMC joint
   d. two of the above
   e. all of the above

21. Based on the directional arrows of movement and the location of the resistance, the
    muscles being exercised in this picture are
    a. 2nd & 4th DABs and abductor digiti minimi
    b. 1st DAB and 5th DAB
    c. all 4 DABS
    d. 1st DAB and abductor digiti minimi

22. The joint motions being performed against the resistance in the picture above are
    a. abduction of the 1st and 4th MCPs
    b. abduction of all the MCPs of the fingers except the MCP of the 3rd digit
    c. abduction of the 2nd and 5th MCPs
    d. abduction of the PIPs of the fingers

23. A dermatome chart would indicate the area of skin (sensation) innervated by C4 spinal nerve.
    a. True  b. false

24. The list of muscles innervated by radial nerve is called
    a. a myotome list
    b. a peripheral nerve motor innervation list
    c. the most interesting information to ever be compiled
    d. both A and B

25. What is the best means a PT has for "clearing" the areas above and below the site of a patient's complaint?
    a. do sensation and reflex testing
    b. take only a history
    c. do a screening exam
    d. do a palpation exam
    e. refer the patient for blood tests and MRI

26. The only difference between manual muscle testing and gross muscle testing/screening is the grading scale
    used to rate the patient's strength.
    a. True  b. false
27. You examine a patient's bilateral triceps via gross strength test. Strength is weak and painless on the right. IF the pathology is neurological and IF the problem is at the nerve root level, then the problem likely involves
   a. C4 spinal nerve
   b. C5 spinal nerve
   c. C6 spinal nerve
   d. C7 spinal nerve
   e. C8 spinal nerve

28. An Upper Quarter Screening exam includes all the following components except
   a. full AROM
   b. dermatome testing
   c. myotome testing
   d. full PROM
   e. gross muscle testing

29. You are performing dermatome testing on a patient's upper extremity. The patient indicates that sensation at the medial forearm feels "different and kind of tingly-numb" on the right and normal on the left. You would describe this impairment as
   a. absent sensation in the T1 dermatome on the left.
   b. impaired sensation in the T1 dermatome on the right.
   c. normal sensation in the T1 dermatome on the right.
   d. hyperactive sensation in the T1 dermatome on the left.
   e. weak and painless sensation in the T1 dermatome on the right.

30. A monosynaptic reflex that is a sharp muscular contraction evoked by a sudden stretch of a muscle (via activated ms spindle) is called a
   a. myotatic reflex.
   b. stretch reflex.
   c. deep tendon reflex.
   d. all of the above.

31. L4 nerve root (spinal nerve) on the right is being compressed and sensory & motor function is impaired. Weakness will probably be exhibited with myotome resistance testing of
   a. neck/head rotation.
   b. ankle plantarflexion.
   c. knee flexion.
   d. hip flexion.
   e. none of the above

32. L5 nerve root (spinal nerve) on the right is being compressed and sensory & motor function is impaired. Reflex may be affected at
   a. the biceps.
   b. the triceps
   c. the quads.
   d. the hamstrings.
   e. none of the above

33. A ____________ chart would indicate which area of skin (ie. sensation) is innervated by the median nerve.
   a. peripheral nerve motor innervation
   b. peripheral nerve sensory innervation
   c. myotome
   d. dermatome
34. You are testing the strength of a patient’s hip flexion. Doing this test gives you information not only about the contracting muscles AND the function of one or more spinal nerves, but it also gives you information about
   a. the function of the peripheral nerve innervating the muscle.
   b. the dermatome of the muscle tested.
   c. the cutaneous sensory innervation of one or more spinal nerves.

35. Which of the following is/are an example of an examination skill, that a physical therapist can and does perform, that seeks to generally identify “what” function is abnormal/impaired rather than identify specifically “why” function is abnormal/impaired AND assists the physical therapist in determining specific areas that need to be examined further?
   a. MRI and CT interpretation for diagnostic purposes
   b. History and Systems Review
   c. Upper & Lower Quarter Screen
   d. detailed physical examination of an area, such as the knee, using goniometry, MMT, palpation, and selective ligamentous stress tests.
   e. both b and c

36. A Lower Quarter Screening exam, as practiced in lab, includes all of the following components except
   a. checking AROM
   b. dermatome testing
   c. myotome testing
   d. checking PROM
   e. none of the above

37. An Upper Quarter Screening exam includes all the following components except
   a. checking AROM
   b. dermatome testing
   c. myotome testing
   d. checking PROM
   e. gross muscle testing

38. Regarding the upper and lower screening exam and its use, either minimally or maximally, in the patient examination process in physical therapy: If you do not develop a personalized & systemic process of doing the screen, you will probably either be very slow at performing the screen OR possibly choose to not perform the screen at all in clinical practice.
   a. True
   b. False

39. All vertebrae of the cervical spine (C1-7) can be viewed on a cervical spine lateral view plain film radiograph.
   a. True
   b. False

40. An AP plain film radiograph is a typical view ordered for the shoulder, ankle and thoracic spine.
   a. True
   b. False

41. When viewing an AP projection radiograph, placement in the view box, for anything other than the hand and the foot, would be with the patient
   a. in sidelying
   b. facing away from you
   c. facing you
   d. b & c are equally fine
42. When viewing a radiograph that shows the fingers or toes, placement in the viewbox should be
   a. with the fingers pointing down
   b. with the fingers pointing up
   c. doesn’t matter which way you place it
   d. a & b are equally fine

43. As radiodensity increases, the object appears more ______________ on the radiographic film.
   a. black
   b. gray
   c. white
   d. gray-black

44. Which of the following would appear solid white on a radiograph:
   a. bone
   b. heavy metal
   c. contrast media
   d. air

45. Approximately 80\% of all medical imaging examinations are ______________ .
   a. CT scans
   b. MRI
   c. plain film radiographs
   d. arthrogram, myelogram, and angiograms combined
   e. radioisotope bone scans

46. Without even knowing the typical view(s) that are ordered for the chest (heart-lungs), you can correctly predict that the radiographic view needed in order to limit the magnification of the lungs & heart is a(n)
   a. lateral view
   b. anteroposterior (AP) view
   c. posteroanterior (PA) view
   d. axial view

47. With plain-film radiographs, the term “dense” or “radiodense” is synonymous with the term
   a. lucent.
   b. magnified.
   c. opaque.
   d. overexposed.
   e. contrast-enhanced.

48. The acronym "ABCS" represents a systematic method for correctly placing radiographs in the view box.
   a. True  b. False

49. Contrast media is not used in conjunction with a plain film radiography. It is only used with CT or MRI to allow differentiation of soft tissues.
   a. True  b. False

50. On CT images, fat is dark gray while on a MRI T1 signal image, fat is white.
   a. True  b. False
Regarding the required reading, “Musculoskeletal Imaging in Physical Therapist Practice” JOSPT.

51. What subtle and/or early-stage pathologies have a high chance of being missed (eg. false negative) on a plain film radiograph?
   a. late-stage neoplasm
   b. acute stress fracture
   c. healing fracture
   d. displaced fracture
   e. three of the above

52. Overuse of plain film radiologic imaging occurs because no clinical prediction or decision rules exist that help providers determine when there is a need for a radiographic imaging study.
   a. True  
   b. False

53. Firmly implanted (stable) orthopedic hardware is considered a contraindication for MRI.
   a. True  
   b. False  
   c. It depends on if the stable implant is made of ferromagnetic metal

**Answer Key**

1. B  
2. D  
3. B  
4. B; they act at the 5\textsuperscript{th} metacarpal & digit  
5. A  
6. C  
7. B  
8. D  
9. A  
10. B; it forms just proximal to the PIP joint  
11. B; the lateral bands insert on the distal phalanx  
12. A  
13. D  
14. A  
15. A  
16. C  
17. D  
18. B  
19. A  
20. D; both ulnar deviation AND 2\textsuperscript{nd} finger MCP flexion  
21. D; B is a good answer but D is the most technically correct  
22. C  
23. A  
24. B  
25. C  
26. B; the testing techniques are vastly different, esp. with regard to AROM and gravity  
27. D  
28. D  
29. B  
30. D  
31. E  
32. E  
33. B  
34. A  
35. E  
36. E  
37. D  
38. A  
39. A  
40. A  
41. C  
42. B  
43. C  
44. B  
45. C  
46. C  
47. C  
48. B  
49. B  
50. A  
51. B  
52. B  
53. B