

Key:

1. D
2. AD
3. C
4. B
5. C
6. C
7. B
8. D
9. A
10. D
11. D
12. B
13. B
14. A
15. A
16. AC
17. C
18. B
19. B
20. D
21. CD
22. A
23. D
24. C
25. E
26. C
27. C
28. C
29. A
30. B
31. D
32. C
33. A
34. B
35. AC
36. B
37. ABCDE
38. B
39. B

Text in parentheses are also acceptable answers, and earn credit

40. D
41. B
42. A
43. C
44. B
45. C
46. C
47. A
48. D
49. B
50. B
51. ACDFEB
52. BADC
53. BFAEDC
54. EDCAB
55. BADEC
56. CBA
57. The radial and ulna bursa function to help the tendons in your wrist slide with less friction. The radial bursa is associated with the thumb (and carries the tendon of the flexor pollicis longus) while the ulnar bursa is associated with the other fingers (and carries the tendons of the flexor digitorum superficialis and the flexor digitorum profundus)
- 58.
- a. Scoliosis is when the spine shows a side curve, rather than remain in the center of the back. It is a result of abnormal spinal development and is usually seen in adolescent girls
 - b. Kyphosis is an abnormal thoracic curvature that is greater than normal. It is usually found in elderly women as a result of osteoporosis and aging, although it affects both sexes. (It can also develop as a result of poor posture, or excessive participation in weightlifting and wrestling in boys, or spondylolisthesis)
 - c. Lordosis is an abnormal lumbar curvature that is greater than usual lumbar curvature. It can have the same causes as kyphosis. (It can also be caused by obesity or pregnancy)
59. Cartilage contains very few blood vessels. The blood vessels that do pass through cartilage do not exchange nutrients. Chondrocytes obtain all their nutrients via diffusion. They have a slow metabolism and therefore divide infrequently
60. True ribs are connected to the sternum via individual strips of (costal, hyaline) cartilage. Ribs 1-7 are true ribs. False ribs, ribs 8-10, are not individually attached to the sternum. Their cartilaginous attachments join together and attach to the costal cartilage of rib 7.

Text in parentheses are also acceptable answers, and earn credit

Ribs 11-12 are not attached to the sternum in front, by cartilage or any other means. They are called floating ribs

61.

- a. Jaundice is caused by a buildup of bilirubin in blood. Bilirubin is a byproduct of the breakdown of red blood cells. It causes the skin to become yellow.
- b. Albinism is a genetic disorder that results in a lack of melanin production (due to a lack of tyrosinase), which results in white skin. Melanocytes are located in the stratum basale of the epidermis
- c. Pallor is a pale color of the skin caused by a lack of blood flow. The lack of blood flow allows the color of collagen in the dermis to show through.

62.

- a. Rheumatoid arthritis is an autoimmune disease in which immune cells attack the body's joints, causing inflammation, pain and loss of joint function as a result of degradation of the joint
- b. Osteoarthritis is arthritis caused by normal "wear-and-tear" of the joints. Cartilage in the joints wears away. This restricts movement and causes pain

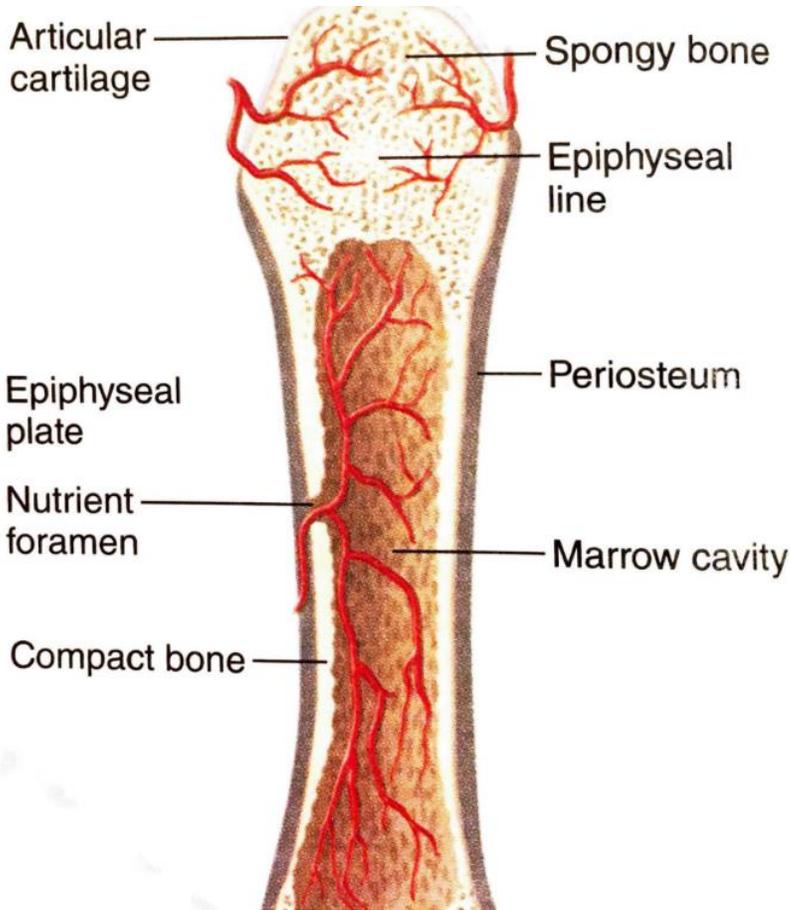
63.

- a. The prime mover or agonist is the muscle providing the most force in muscle action
- b. A synergist assists the prime mover (agonist) in providing force during muscle action. They also help to neutralize any unwanted action by the prime mover.
- c. An antagonist is a muscle that has an action that opposes the prime mover. It returns the limb to its original position at the conclusion of muscle action
- d. A fixator holds the body in place while the action is occurring and helps prevent any unwanted movement

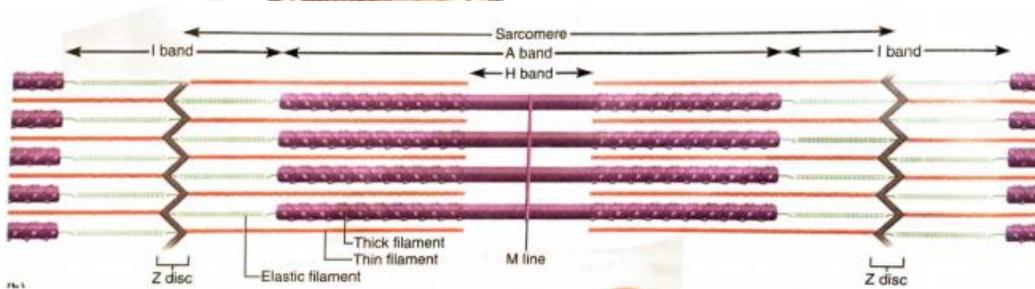
64. The origin and insertion are places where the muscle is attached. The origin describes the attachment position on the bone that does not move or moves relatively little during muscle action. The insertion is the attachment on the bone that moves during muscle action.

65. Unusually tall dermal papillae bring nerve endings closer to the surface of sensitive areas.

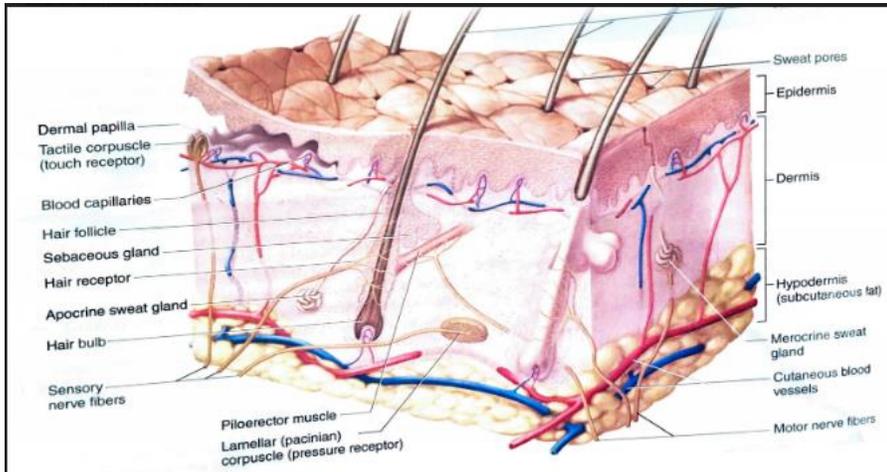
66. Closed reduction of fractures utilizes casts and other devices to manipulate and hold bones in the correct position to heal without surgery. These implements are removed when the bone heals. Open reduction uses screws and plates, installed via surgery, to hold the bones in place while healing occurs. These are usually left inside the body forever.



67.



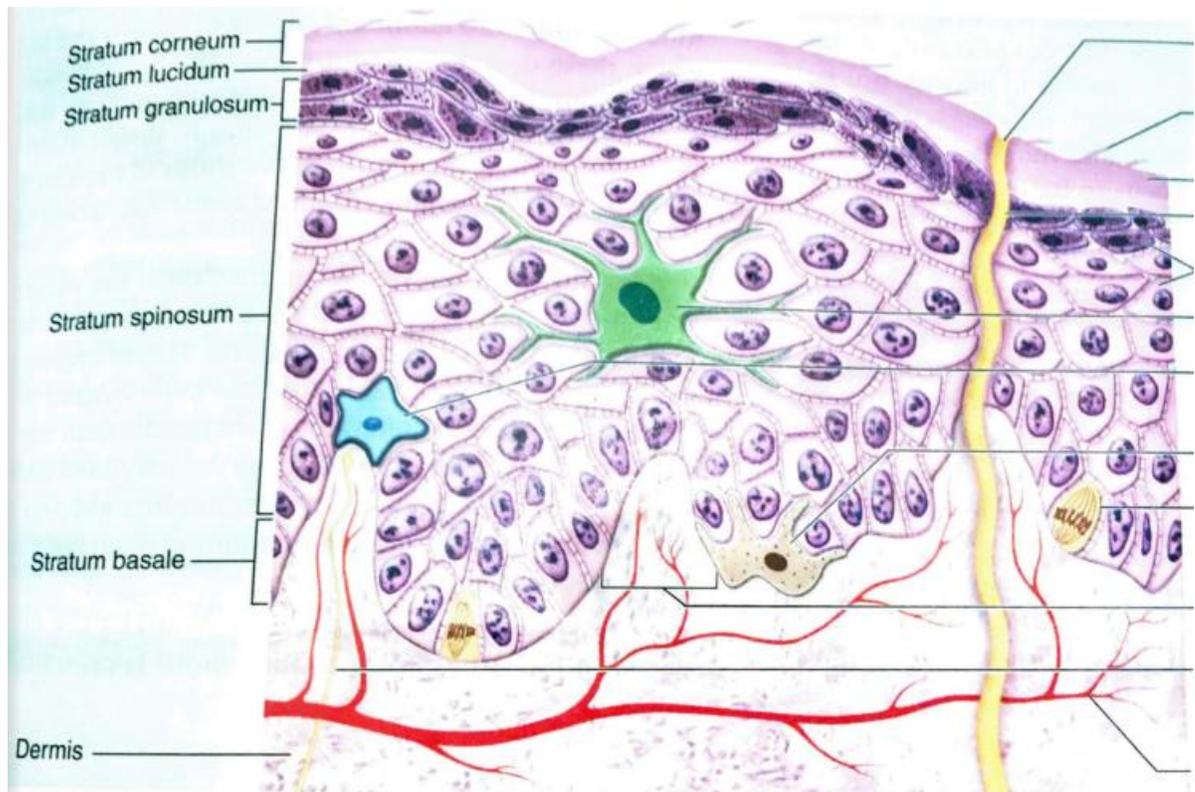
68.



69.

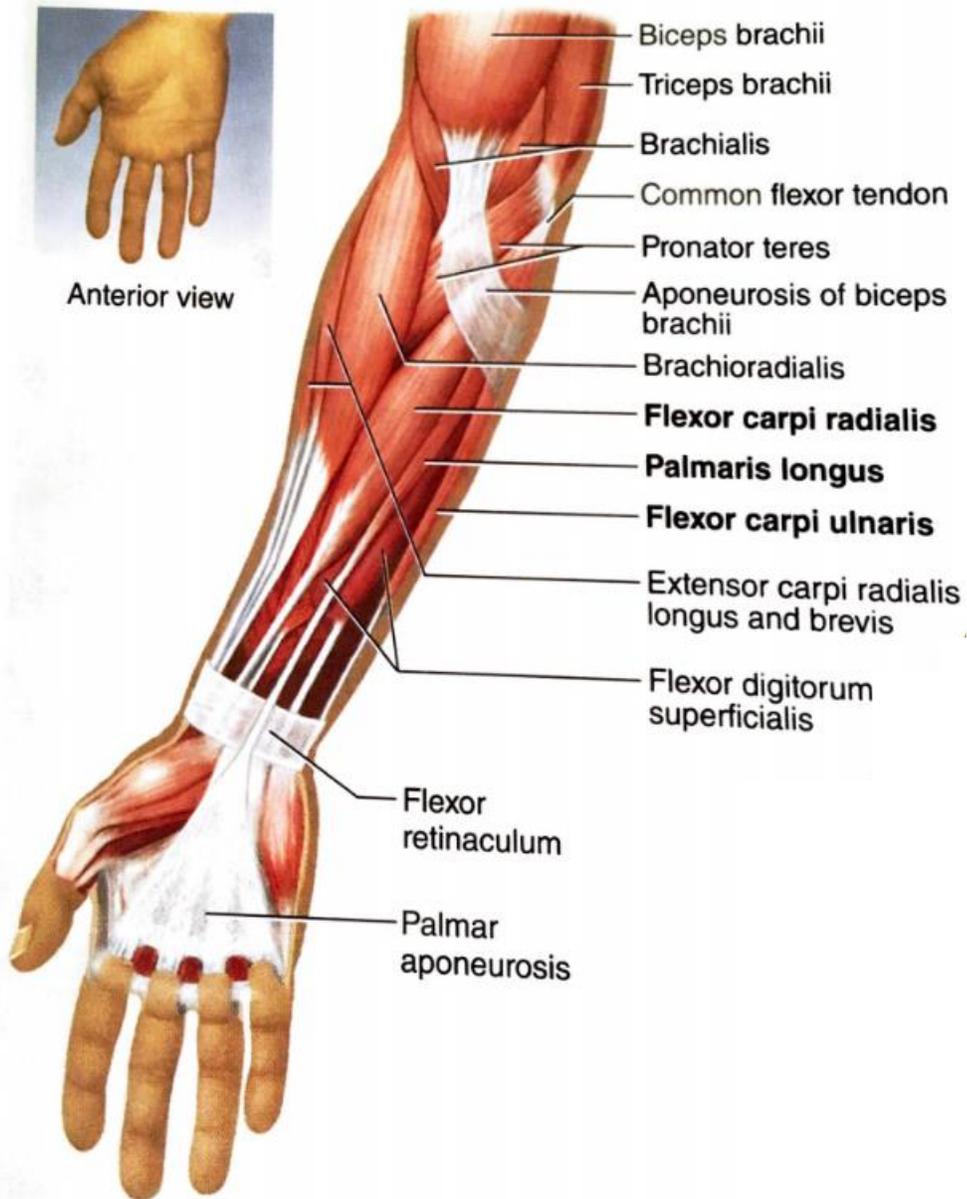
a. (*Clarification: The answer to 1 is dermal papilla; the answer to 8 is hair or pilus)

Text in parentheses are also acceptable answers, and earn credit

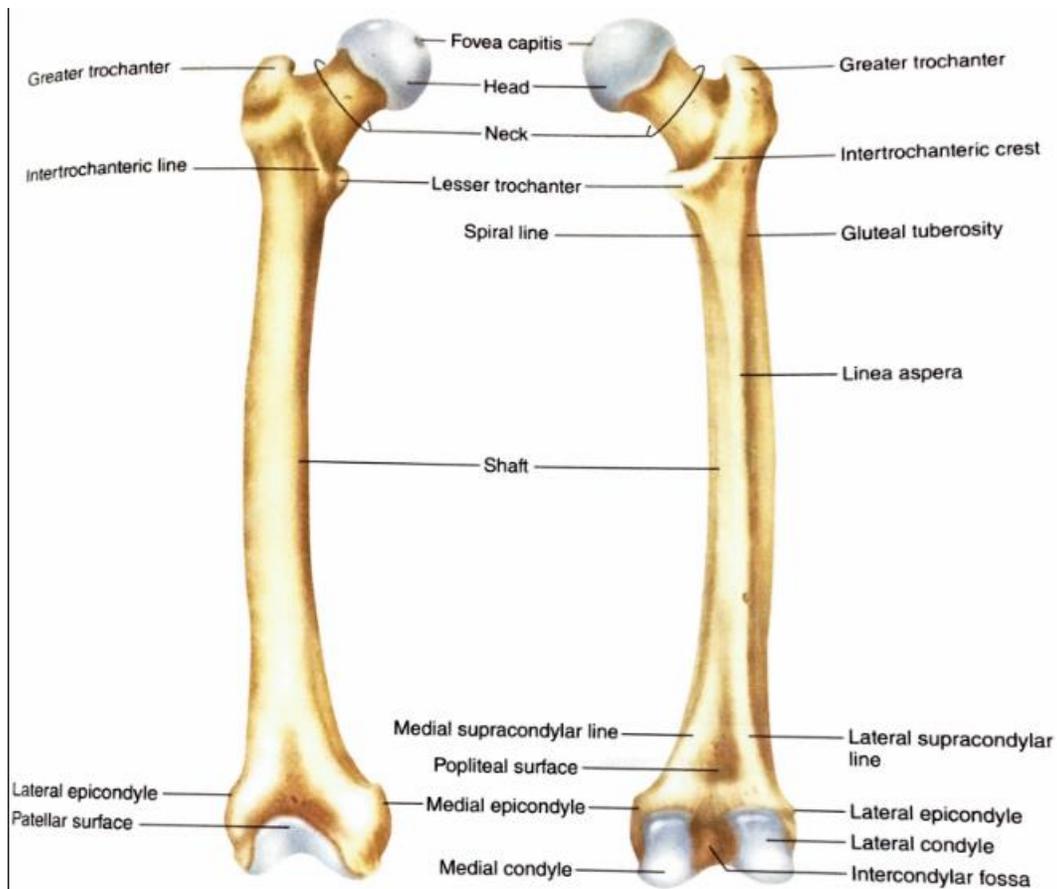


70.

- a. *The answer to 1 is dermal papilla, and the answer to 4 is dendritic cell.



71.



72.

Grading

There is no penalty for guessing

All multiple choice questions are worth 2 points, including True/False questions. For questions with multiple answers, no partial credit is given.

Questions 9 and 31 are bonus questions/tiebreakers. Question 9 is worth 0.1 points and Question 31 is worth 0.2 points

Ordering questions (51-56) are assigned point values based on the number of items to be ordered, with each item ordered correctly being worth 1 point, and 0 if wrong.

57. 5 points. 3 for describing the function of the radial and ulnar bursa, 1 point each for correctly describing the fingers each relate to

58. 1 point for describing the shape of the spine in each disorder and 1 point for a possible cause + people at risk (answers may vary on this section). 6 points total

59. 2 points for a correct answer that includes a lack of nutrients from blood vessels

60. 6 points total. For each type of rib, 1 point each for type of connection to sternum, 1 point each for correct number of ribs.

Text in parentheses are also acceptable answers, and earn credit

61. 6 points total. 1 point per disorder for correct identification of cause. 1 point per disorder for correct identification of layer.

62. 4 points total. 2 points for correct description of rheumatoid arthritis, 2 points for correct description of osteoarthritis.

63. 8 points total. 2 for each correct definition

64. 4 points total. 2 points for correct definition of origin, 2 points for correct definition of insertion

65. 2 points for correctly identifying tall dermal papillae

66. 5 points. 2 points for correctly describing each type of reduction. 1 point for identifying that the implements in open reduction stay forever.

67-70: Each correct term earns 2 points.

71 and 72: Each correct term earns 2.5 points

Before adding bonus points:

If the point value is not a counting number, round down to the nearest counting number.

If the point value is not a counting number, but a whole number, you're either really (un)lucky or you wanted to get this score.

If the point value is not a whole number but an integer, please note that there is no penalty for wrong answers on this test.

If the point value is not an integer and positive, see statement 1, if it is not an integer and negative, 3.

If the point value is a complex number, yes.

_____/270