

Total points - ___/169

Integumentary - ___/57

- 1) B
- 2) D
- 3) C
- 4) A
- 5a) CDE
- 5b) Thick skin
- 5c) Stratum granulosum, stratum spinosum, stratum basale
- 5d) E
- 6) A
- 7) A
- 8) B
- 9) C
- 10) B
- 11) A
- 12) D
- 13) D
- 14) A
- 15) B
- 16) D
- 17a) Growing phase; hair is nourished by the blood and grows continuously.
- 17b) Transition/regression phase; hair follicle shrinks and detaches from the blood supply.
- 17c) Resting phase; hair dies and rests.
- 18) A
- 19) B
- 20) Summer
- 21) A
- 22) A
- 23) D
- 24) C
- 25) B
- 26a) Melanoma
- 26b) Patient spends much time outside (in sun) from track, headaches (brain metastases from spread of melanoma), lost feeling in side (brain metastases), hard lump under chin (lymph node reaction to cancer), high metabolic lymph nodes (abnormally fast dividing cells), rapid worsening (melanoma acts fast)
- 26c) Cells from the melanoma can break off the primary tumor and float around in the blood. The blood brain barrier has proteins on its surface, which means if the skin cancer cell adheres to the protein on the barrier, they can grow and multiply, forming a brain metastasis.

Muscular - ___/52

- 27) D
- 28) A
- 29) C
- 30) B
- 31) True
- 32) False
- 33) False
- 34) False
- 35) False
- 36) True
- 37) D
- 38) C
- 39) C
- 40) C
- 41a) Z disk, H zone, I band
- 41b) They serve as anchors for the actin filaments
- 41c) Actin
- 41d) Actin
- 42) B
- 43) C
- 44) C
- 45) D
- 46) A
- 47) C
- 48) B
- 49) A
- 50a) Myasthenia gravis
- 50b) Despite high breathing rates, the blood-oxygen level is still low. Myasthenia gravis might affect the muscles in the chest, weakening those that are responsible for respiratory functions.

Skeletal - ___/60

51) B

52) C

53) D

54) A

55a) Endochondral ossification takes place in the cartilage and involves formation of a cartilage 'skeleton' before bone is deposited, while intramembranous ossification is developed directly in the mesenchymal tissue.

55b) Medullary cavity

55c) No

55d) Hyaline cartilage

56) D

57) B

58) A

59) A

60) D & E

61) G

62) M & i

63) C

64) C

65) D

66) A

67) B

68) B

69a) Scoliosis

69b) No; young females are most prone to this condition.

69c) Surgery, as a curvature of 45-50 degrees is considered severe and would require surgical intervention. S-curves are also more prone to further curving than C-curves, and as the patient is still young, it would be best to treat her condition through surgery.