

ANSWER KEY**Chapter 19 Test Answer Key****BLM 19.3.1A**Answers to **Multiple Choice** Questions

1. b
2. c
3. a
4. d
5. a
6. c
7. b
8. d
9. a
10. d
11. c
12. d
13. a
14. b
15. b
16. c
17. b
18. b
19. a
20. c
21. c
22. d
23. d
24. a
25. c
26. d
27. a
28. d
29. b
30. d

Answers to **Numerical Response** Questions

1. 140
2. 0.207
3. 0.04

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Sample Answers to **Written Response** Questions

1. a) Award one mark for designating the axial allele with a capital letter. Give one mark for designating the terminal allele with a lower case letter. Any letter is acceptable.
 Give one mark for calculating q (terminal flower allele frequency) as 0.491.
 Give one mark for calculating p (axial flower allele frequency) as 0.509.
 Since all numbers are counts, significant digits do not apply.

b) Number of heterozygotes = $2pq(N) = 2(0.491)(0.501)(858) = 422$.

Give one mark for the work shown, and one mark for the correct answer.

c) Number of heterozygotes = $2pq(N) = 2(0.491)(0.501)(2500) = 1230$.

Give one mark for the work shown, and one mark for the correct answer.

- d) Give one mark each for identifying any three of the conditions necessary for genetic equilibrium in allele frequency to be established.

- There are no new mutations.
- The population is large.
- There is no migration (may be separated into immigration and emigration).
- There is no natural selection.
- Mating is random.

Give one mark for each reasonable justification.