

Anomaly's Heredity SSSS Answer Key:

Multiple Choice:

1. B
2. C
3. B
4. A
5. B
6. B
7. D
8. B
9. A
10. B
11. B
12. D
13. A
14. D
15. A
16. B
17. D
18. D
19. A
20. C

True/False

21. True
22. True
23. False; Adenine and Guanine are purines because they have three rings in their structure
24. False; both of them have 5 carbons
25. False; on the 3' end is an amino acid and the 5' end is an anticodon
26. True
27. False; Polydactyly is an autosomal dominant disorder
28. False; Translation occurs in the cytoplasm/ribosomes
29. False; mutation occurs on chromosome 11
30. False; Haploid cells have a number of chromosomes represented by n
31. False; replicates from 5' to 3'.
32. True
33. False; Incomplete dominance is displayed in snapdragon flowers
34. True
35. False; there are four types of protein structures: primary, secondary, tertiary, and quaternary
36. True
37. True
38. False; G1 and G2 stages

39. True

40. False; 2003

41.

a.

	X^R	X^R
X^r	$X^R X^r$	$X^r Y$
X^r	$X^R X^r$	$X^r Y$

b. 75%

c. none of them (0%)

42.

a.

	YR	Yr	yR	yr
YR	YYRR	YYRr	YyRR	YyRr
Yr	YYRr	YYrr	YyRr	Yyrr
YR	YYRR	YYRr	YyRR	YyRr
Yr	YYRr	YYrr	YyRr	Yyrr

b.

- YYRR, YYRr, YyRR, YyRr – Yellow, Round
- YYrr, Yyrr, - Yellow, wrinkled

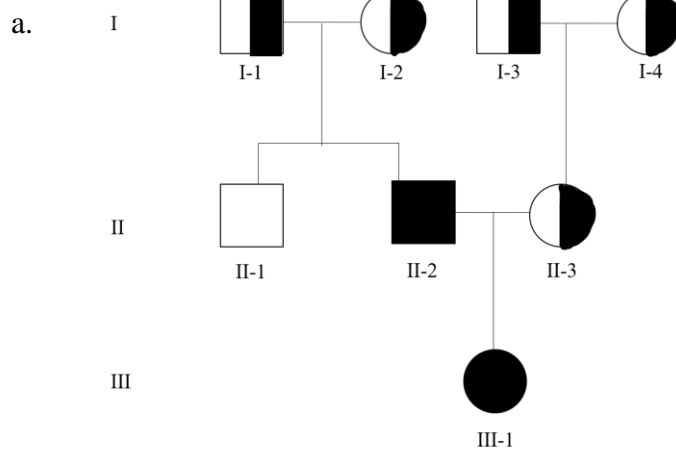
c. 12.5% (1/8)

43.

(from left to right, top to bottom)

- Unaffected male
- Affected female
- Male index case
- Unaffected female
- Married
- Heterozygous (carrier) female

44.



b. 50%

45.

a. GUAGCUAUCUGUAUCGGAUCACAUAUCGACUCGCUCCGAUCGAUCUAG

b. transcription

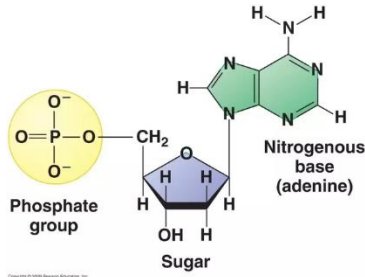
c. 16

d. val-ala-ile-cys-ile-gly-ser-his-ile-asp-ser-leu-arg-ser-ile-stop

e. Alanine (ala), Valine (val), Isoleucine (ile), Leucine (leu)

f. Cysteine (cys), Glycine (gly), Serine, (ser), Histidine (his), Aspartate (asp), Arginine (arg)

46.



47.

a. Prophase: Chromatin condense into chromosomes. Centrioles move to opposite ends of the cell.

b. Telophase: Chromosomes turn back into chromatin and nuclear envelopes reform.

c. Metaphase: The chromosomes line up in the center of cell and spindle fibers connect to the chromosomes at the centromere.

d. Interphase: Organelles and DNA duplicate and cell grows. There are checkpoints to make sure that nothing goes wrong during the duplication process.

e. Anaphase: The spindle fibers pull the chromosome apart into two separate chromatids.

48.

Mitosis	Both	Meiosis
-Deals with Growth -Somatic (body) cells -46 chr -> 46chr -DNA remains same -Asexual reproduction -4 stages -Diploid cells -2 daughter cells -undergoes only 1 division -no crossing over	-reproduce cells -involved with chromosomes and dna -many stages -chromosomes line up in the middle -then chromosomes separate -start with 46 chromosomes	-deals with reproduction -sex cells -46 chr -> 23 chr -DNA is different -sexual reproduction -8 stages -haploid cells -4 daughter cells -undergoes 2 divisions -crossing over occurs in prophase 1