

Answers

1. $p_0 = 0, p_1 = 1,$ and $p_2 = 0;$
2. $Z(\theta) \geq 3.0;$
3. $P(\text{genotype } (1\ 2)) = 0.5;$
4. 1;
5. $Z_{min}(0) = -\infty,$ and $Z_{max}(0) = 1.2;$
6. 2 alleles;
7. $P(aa|\text{Affected}) = 0.89;$
8. Yes, if $n_2 = 10$ or ($n_2 = 9$ and $n_1 = 1$);
9. 2;
10. (a) 6;
(b) 0.125;
(c) 0;
11. the proportion of the total trait variance that is due to a given locus;
12. 9;
13. The genetic covariance of two relatives sharing no alleles IBD at the QTL equals 0;
14. 5%;
15. (a) 10 and 14, respectively;
(b) $\alpha_1 = -0.20$ and $\alpha_2 = 3.80;$
(c) 1.52;

- (d) 0.1784;
- 16. (a) $1/8$;
- (b) $1/4$;
- (c) 0.455;
- 17. (a) 7;
- (b) 6;
- (c) 0.0312;