Answers to Algebra 2 L2.4a Modeling with Vertex and Intercept Forms Pg 80, #1-20

1. A quadratic model is appropriate when the second differences are constant.

2. What is the distance from $f(0)$ to $f(2)$? $\sqrt{8}$ units, or about 2.8 units; -1

3. $y = -3(x + 2)^2 + 6$

4. $y = 0.25(x - 4)^2 - 1$

5. $y = 0.06(x - 3)^2 + 2$

6. $y = -6(x + 5)^2 + 9$

7. $y = -\frac{1}{3}(x + 6)^2 - 12$

8. $y = \frac{3}{7}(x + 1)^2 + 14$

9. $y = -4(x - 2)(x - 4)$

10. $y = (x + 1)(x - 2)$

11. $y = \frac{1}{10}(x - 12)(x + 6)$

12. $y = -2(x - 9)(x - 1)$

13. $y = 2.25(x + 16)(x + 2)$

14. $y = 0.01(x + 7)(x + 3)$

15. If given the x-intercepts, it is easier to write the equation in intercept form. If given the vertex, it is easier to write the equation in vertex form.

16. A and C

17. $y = -16(x - 3)^2 + 150$

18. $y = -16x^2 + 180$

19. $y = -0.75x(x - 4)$

20. $y = -\frac{1}{9}(x - 3)^2 + 1$