Answers to Algebra 2 L2.4b Write Quadratic Equations to Model Data Sets Pg 81, #23-27

23. $S(C) = 180C^2$; 18,000 lbs

24. $y = -2x^2 + 12x + 6$; 16 ft

25. intercept form; The three points can be substituted into the intercept form of a quadratic equation to solve for a, and then the equation can be written. This method is much shorter than writing and solving a system of three equations, although it can only be used when given the intercepts.

26. **a.** linear; x and y change at a constant rate.

b. $y = 45x$; 270 mi

27. **a.** parabola; not a constant rate of change

b. $h = -16t^2 + 280$

c. about 4.18 sec

d. The domain is $0 \le t \le 4.18$ and represents the time the sponge was in the air. The range is $0 \le h \le 280$ and represents the height of the sponge.