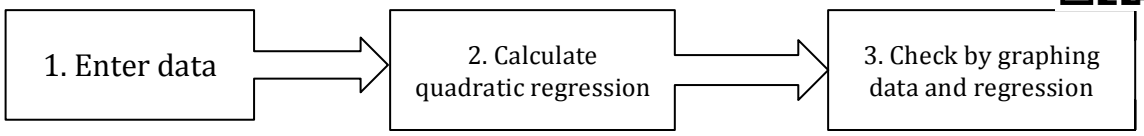
Algebra 2 Name _____

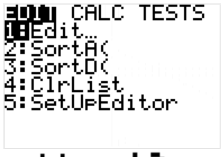
4-3 Quadratic Models Date _____ **A#9**

Using the TI-84 to find the quadratic function that models data

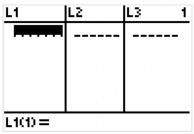


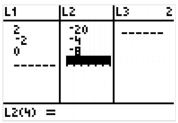
1. **Enter Data**

   a. Tap STAT (LIST) button. Select Edit…



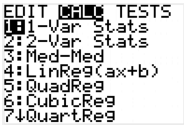
   b. Enter data into L1 and L2: (2, –20), (–2, –4), (, –8). Place the domain in L1 and the range in L2.

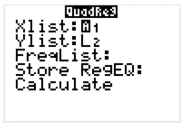




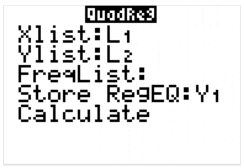
2. **Calculate quadratic regression**

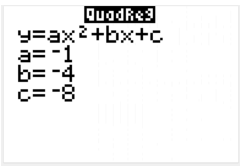
   a. Select STAT (LIST), arrow right to CALC, select QuadReg.





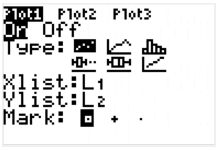
   b. Make sure XList: is L1 and YList: is L2. In the Store RegEQ: insert Y1 by selecting VARS (DISTR), arrow right to Y-VARS, select 1:Function…, Y1 Then select Calculate



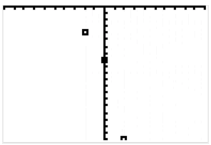


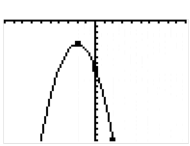
3. **Check by graphing data and regression**

   a. Select STAT PLOT (2ND, Y=) (STAT PLOT F1), select 1:, On



   b. Select GRAPH (TABLE F5). Adjust the window by pressing ZOOM → 9: ZoomStat.





Algebra 2
4-3 Quadratic Models **A#9**

Find an equation in standard form of the parabola passing through the points. Then approximate the maximum or minimum.

1. (1, −1), (2, −5), (3, −7)

2. (1, −4), (2, −3), (3, −4)

3. (2, −8), (3, −8), (6, 4)

4. (−1, −12), (2, −6), (4, −12)

5. (−1, −12), (0, −6), (3, 0)

6. (−2, −4), (1, −1), (3, 11)

7. (−1, −6), (0, 0), (2, 6)

8. (−3, 2), (1, −6), (4, 9)

9.

x	f(x)
− 1	7
1	5
3	11

10.

x	f(x)
− 2	− 7
0	1
2	1

13. The table shows the number n of tickets to a school play sold t days after the tickets went on sale, for several days.
a. Find a quadratic model for the data.
b. Use the model to find the number of tickets sold on day 7.
c. When was the greatest number of tickets sold?

Day, t	Number of Tickets Sold, n
1	32
2	64
4	74

14. The table gives the number of pairs of skis sold in a sporting goods store for several months last year.
a. Find a quadratic model for the data, using January as month 1, February as month 2, and so on.
b. Use the model to predict the number of pairs of skis sold in November.
c. In what month were the fewest skis sold?

Month, t	Number of Pairs of Skis Sold, s
Jan	82
Mar	42
May	18