Name: _____ Date: _____

How to Do Page 428 Example 2 Using TI-83/84

Use TI-83/84 to determine and verify the solution to the following system of linear-quadratic equations:

$4x - y + 3 = 0$

$2x^2 + 8x - y + 3 = 0$

1. Enter each equation in the Y= Screen.

- Press [Y=]. Note: if you wish to clear a line, move the cursor to the line and press [CLEAR] [ENTER].
- On one of the lines, enter the first equation by pressing **4** [x,T,Θ,n] [+] **3**.
- On a different line, enter the second equation by pressing **2** [x,T,Θ,n] [x^2] [+] **8** [x,T,Θ,n] [+] **3** [ENTER] as shown in Figure 1.

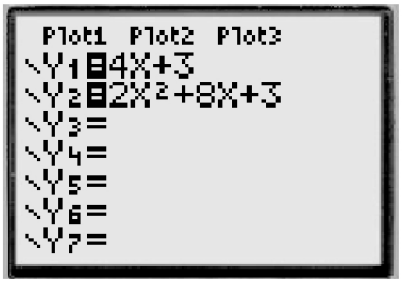

Figure 1

2. Enter a window and then graph the functions.

- Press [WINDOW]. A possible window is shown in Figure 2.

Figure 2

- Press [GRAPH]. You will see Figure 3.

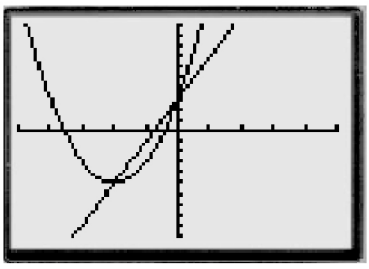

Figure 3

3. Calculate each intersection.

- Press [2nd] [TRACE].
- Choose 5: intersect as shown in Figure 4. Press [ENTER]. You will be asked if the cursor is on the first curve and then on the second curve. Press [ENTER] both times.

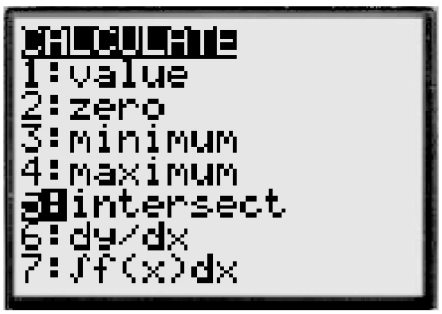

Figure 4

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- You will be asked to guess a value for x. Press ENTER and one of the intersection points will be found. See Figure 5.

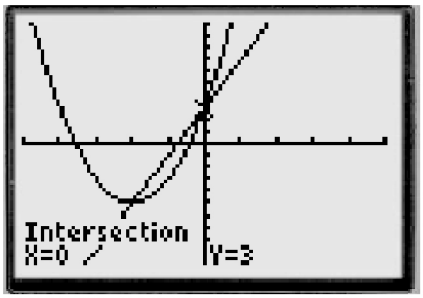

Figure 5

- To find the remaining intersection point, repeat the steps for calculating an intersection, but this time when asked for a guess, use the right or left arrow key to move the cursor near the remaining intersection point. Then, press ENTER. You will see Figure 6.

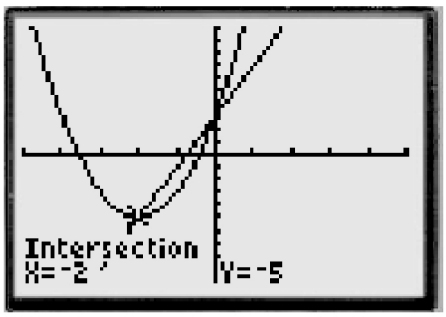

Figure 6

4. Verify that the solution is correct:

- Press 2nd MODE.
- Press **4** × **0** − **3** + **3** ENTER.
- Type **2** × **0** x^2 + **8** × **0** − **3** + **3** ENTER. You will see Figure 7.
  Then, press CLEAR.

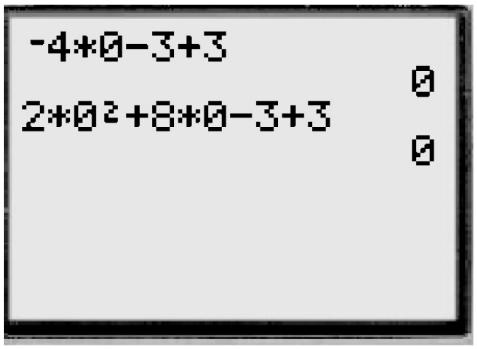

Figure 7

- Press **4** × **−2** − **−5** + **3** ENTER.
- Type **2** × (**−2**) x^2 + **8** × **−2** − **−5** + **3** ENTER. You will see Figure 8 (below).

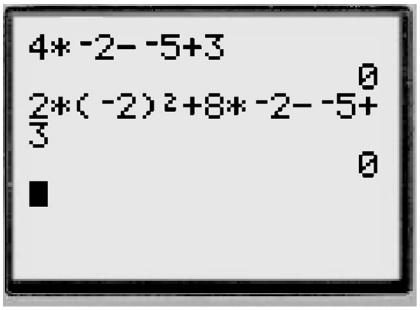

Figure 8

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