

Calc Menu (intersect)

Calculating the coordinates of an intersection for a pair of functions on a single graph.

We will use the rules $P(x) = -3x^2 + 4x + 2$ and $G(x) = -5$.

Keystrokes

Screen

Enter the functions into the equation editor:

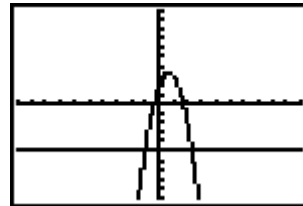
$Y =$ $(-)$ 3 \times, T, θ, n x^2 $+$ 4 \times, T, θ, n $+$ 2
 $Y =$ $(-)$ 5



Look at the graph:

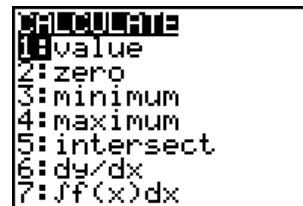
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Note: you may need to adjust your WINDOW dimensions we use a standard viewing window here.



View the **Calc** menu:

2nd **TRACE**

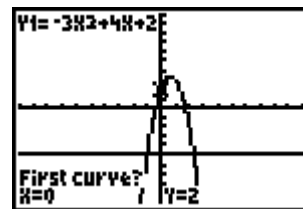


Select the **Calculate Intersect** feature:



5

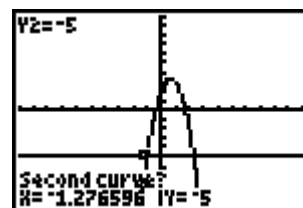
Note: you can also use the down cursor four times and then press

ENTER to select the feature.





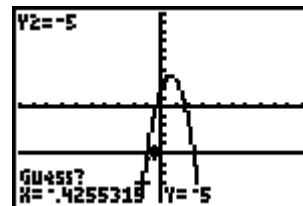
First Curve? Press **ENTER**.

Note: You may need to use  or  to locate the equation of the first curve in the intersection, written in the upper left hand corner of the screen.



Second Curve? Press **ENTER**.

Note: You may need to use  or  to locate the equation of the second curve in the intersection, written in the upper left hand corner of the screen.






More questions? Contact the **Metropolitan State University Math Center** at

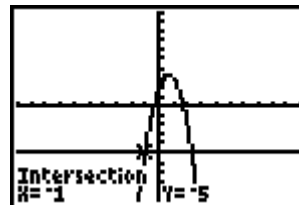
651-793-1460, 651-793-1463 (Fax) or math.center@metrostate.edu.

Persons with a disability who need reasonable accommodations may call Disability Services at 651-793-1540 or 651-772-7687 (TTY).

Keystrokes



Screen

Guess? Use  or  to locate the approximate intersection and press . The coordinates of the point of intersection are displayed at the bottom of the screen.



*Note: If there is more than one intersection on the graph, when you are asked for a **Guess?** use the left and right arrow keys to maneuver the blinking cursor closest to the intersection you want.*

Note:

- 1) *The TI-83 displays the X and Y Values on the bottom of the screen and marks the point on the graph with a blinking cursor.*
- 2) *The function currently in use is displayed at the top left of the screen.*
- 3) *If you have more than one function graphed on the screen, using the up  and down  arrows will enable you to move from function to function.*

Uses and Interpretations of the INTERSECT command:

- 1) Finding (near) exact coordinates for labeling on a hand sketch of the function.
- 2) Finding solutions to equations (put left-hand side as one function, right-hand side as another function in the equation editor).

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