Mth 95 Graphing Calculator Activity Franz Helfenstein

When graphing functions on your calculator it is usually a good idea to start with the default settings for the [Window] menu. Recall that this can be done quickly by using [Zoom] (6)

1) Graph $y = x^3 - 3x^2 + 2$. Adjust your [Window] settings to <u>match</u> the graph shown here. What are the settings? Hint: Consider counting the tic marks.

[Xmin, Xmax]	Xscl	[Ymin, Ymax]	Yscl



2) Find a friendly window for $y = x^3 - 30x^2 - 400x + 12000$.

	[Xmin, Xmax]	Xscl	[Ymin, Ymax]	Yscl
What are the window settings?				

- 3) Find the intersection of y = 2x 3 and y = -x + 9
- 4) Find <u>both</u> intersections of $y = 0.04x^2 6$ and y = -0.2x + 6
- 5) Find <u>all</u> intersection points for the graphs of y = 2x 3 and $y = x^3 2x^2 3x + 4$
- 6) Find the coordinates for the local maximum and local minimum of $y = x^3 + x^2 3x 7$
- 7) Find the x-intercept for the graph in number 6

8) Use the "Maximum" feature of your calculator to find the vertex of the parabola $y = -1.4x^2 + 9.6x + 1$

9) Solve for x and find all solutions accurate to ± 0.001 : $-0.125x^2 - 0.5x + 12 = 0.125x^3 - 0.25x^2 - 6x$

10) Solve for x:
$$3 - \frac{x(x-20)}{10} = x + 6$$

Name

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Name ANSWER KEY

When graphing functions on your calculator it is usually a good idea to start with the default settings for the [Window] menu. Recall that this can be done quickly by using [Zoom] (6)

1) Graph $y = x^3 - 3x^2 + 2$. Adjust your [Window] settings to <u>match</u> the graph shown here. What are the settings? Hint: Consider counting the tic marks.

[Xmin, Xmax]	Xscl	[Ymin, Ymax]	Yscl
[-4, 6]	1	[-5, 5]	1



2) Find a friendly window for $y = x^3 - 30x^2 - 400x + 12000$.

What are the window settings?

3)

[Xmin, Xmax]

[-10, 10]

[Xmin, Xmax]	Xscl	[Ymin, Ymax]	Yscl
[-25, 40]	5	[-2500, 15000]	1000

Find the intersection of y = 2x - 3 and y = -x + 9

[Ymin, Ymax]

[-10, 10]

Yscl

1

Xscl

1



Intersection X=4





4a) Find <u>both</u> intersections of $y = 0.04x^2 - 6$ and y = -0.2x + 6

[Xmin, Xmax]	Xscl	[Ymin, Ymax]	Yscl
[-25, 20]	5	[-10, 15]	5

4b) Find <u>both</u> intersections of $y = 0.04x^2 - 6$ and y = -0.2x + 6

[Xmin, Xmax]	Xscl	[Ymin, Ymax]	Yscl
[-25, 20]	5	[-10, 15]	5



6a) Find the coordinates for the local maximum and local minimum of $y = x^3 + x^2 - 3x - 7$

[Xmin, Xmax]	Xscl	[Ymin, Ymax]	Yscl
[-3, 3]	1	[-10, 5]	1

6b) Find the coordinates for the local maximum and local minimum of $y = x^3 + x^2 - 3x - 7$

[Xmin, Xmax]	Xscl	[Ymin, Ymax]	Yscl
[-3, 3]	1	[-10, 5]	1

7) Find the x-intercept for the graph in number 6

[Xmin, Xmax]	Xscl	[Ymin, Ymax]	Yscl
[-3, 3]	1	[-10, 5]	1

8) Use the "Maximum" feature of your calculator to find the vertex of the parabola $y = -1.4x^2 + 9.6x + 1$

[Xmin, Xmax]	Xscl	[Ymin, Ymax]	Yscl
[-3, 10]	1	[-10, 20]	5









Solve for x and find all solutions accurate to ±0.001:
0.125x² - 0.5x + 12 = 0.125x³ - 0.25x² - 6x. x ≈ 9.041

[Xmin, Xmax]	Xscl	[Ymin, Ymax]	Yscl
[-10, 10]	1	[-20, 25]	5





