Worksheet # 1

Don't forget to use your neighbors and play around with the ideas presented here.

Graph the following pairs of functions and find **all** points of intersection.

1. $y_1 = 1.1x - 2$
   $y_2 = -5x + 8$

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2. $y_1 = -1.5x - 1$
   $y_2 = -x^2 - 4x + 5$

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3. $y_1 = x^2 + x - .75$
   $y_2 = x^3 - 3x^2 - x + 4$

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hint: You need to **ZOOM OUT**

4. Graph the following and find the top of the peak.

$y = -x^2 + 4.9x + .5$ _____

Use **ZOOM IN** and **TRACE** and find where
the graph intersects the x-axis. _____

5. Graph the following and find **all** points where they intersect.

$y_1 = \sqrt{3x}$
$y_2 = |x - 2|$ _____

6. Graph the following.

$y = x^3 - .3x^2 - 4.78x + 2.76$

Evaluate the graph at the values of x.
$x = -3$, $x = -2$, $x = -1$
$x = 1$, $x = 2$, $x = 3$

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Use **ZOOM IN** and **TRACE** to find
where the graph intersects the x-axis. _____

Use the **ROOT** or **ZERO** feature to find where
the graph intersects the x-axis. _____

Use **FMAX** and **FMIN** to find the top of the hills
and the bottoms of the troughs _____

7. Graph the following

$$y = x^5 + 1.5x^4 - 38.5x^3 - x^2 - 1.5x + 38.5$$

Use the following window settings and find
where the graph intersects the x-axis _____

xMin= −10
xMax=10
xScl=1
yMin= −500
yMax=500
yScl=50

Use the following settings and find the tops and bottoms of the hills and troughs.

xMin= −10
xMax=10
xScl=1
yMin= −5000
yMax=5000
yScl=1000

8. What is the value of $y1(5.0)$?

Done in LaTeX.