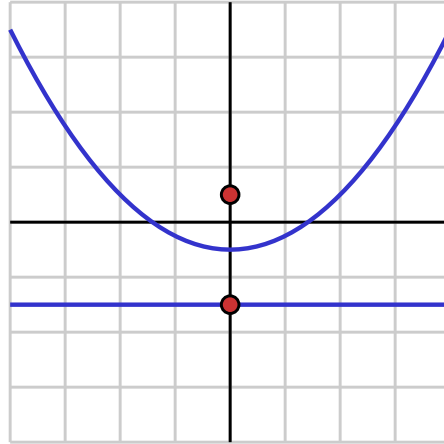


Java Exercises: Day 4

Exercise 1: Remember that a parabola is the set of points that are the same distance between a point, called the focus, and a line, called the directrix. Beginning with the focus and directrix as shown, create the illustration below using the `figure` package.



For extra credit, allow the focus and directrix to be moved (move the directrix by moving the point on it).

Exercise 2: Use the `figure` package to draw the graph of the function $f(x) = 2e^{-x/2} \sin(2x)$ in the viewing rectangle $-2 \leq x \leq 2$ and $-2 \leq y \leq 2$ along with a grid. Draw the tangent line at a point and the point. Allow the point and tangent line to be dragged along the graph.

Exercise 3: Convert the figure from the exercise above into an applet and construct an HTML page to view it.