Quiz 2

Show *all* your work. No credit is given without reasonable supporting work. There are *two* sides to this quiz.

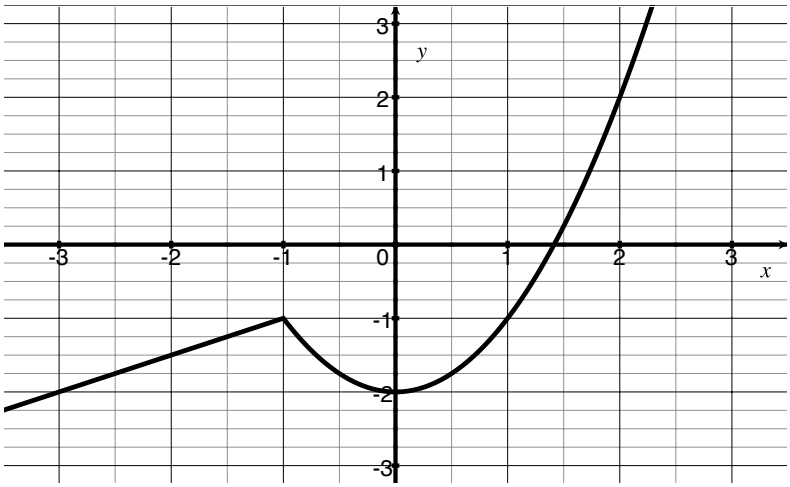
1. [2] (LineSheet #12) Find a line that is parallel to $\frac{4}{7}x + \pi$ and passes through the point $(-1, 3)$.

2. [3] (WebHW3 #20) Let $f(x) = \dfrac{1}{\sqrt{x+2}}$ and $g(x) = x^2 - x$.

   (a) Find $(f - g)(2)$.

   (b) Find $(g \circ f)(-1)$.

3. Let g be the piecewise defined graph shown below.



(a) [1] (graphTransformation #5) Estimate value(s) of x so that $g(x) = 0$?

(b) [3] (§1.2#68 & WebHW3#14) Given that g is comprised of a parabola and a line, find the piece-wise defined algebraic rule of g in the form below.

$$g(x) = \begin{cases} & \text{if } x < -1 \\ & \text{if } -1 < x \end{cases}$$

(c) [1] (WebHW2#16) Find the average rate of change of g as x changes from 0 to 2.