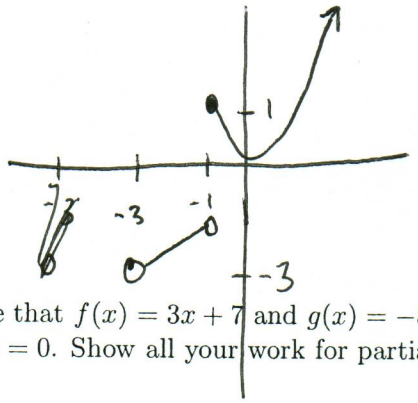
1. (*6 points*) Draw the piecewise function $f(x) = \begin{cases} x & -3 < x < -1 \\ x^2 & -1 \leq x < \infty \end{cases}$ Label your graph or lose points!



2. (*24 points*) Suppose that $f(x) = 3x + 7$ and $g(x) = -5x - 10$.

(a) Solve $f(x) = 0$. Show all your work for partial credit points!

$3x + 7 = 0$

$x = \frac{-7}{3}$

(b) Solve $g(x) > 0$. Show all your work for partial credit points!

$-5x - 10 > 0$

$-5x > 10$

$x < -2$

(c) Solve $f(x) = g(x)$. Show all your work for partial credit points!

$3x + 7 = -5x - 10$

$8x = -17$

$x = -\frac{17}{8}$

(d) Solve $g(x) \leq f(x)$. Show all your work for partial credit points!

$-5x - 10 \leq 3x + 7$

$-17 \leq 8x$

$-\frac{17}{8} \leq x$