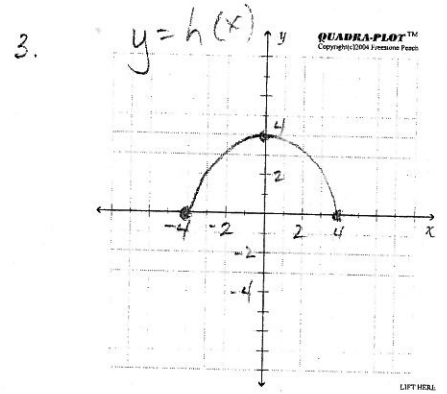
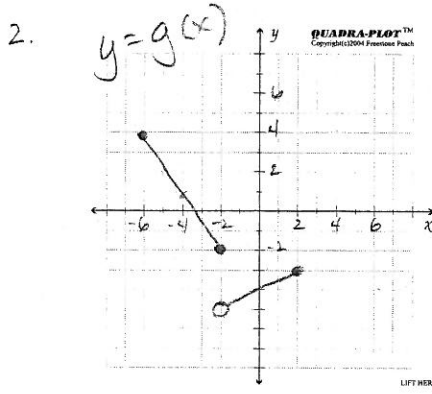
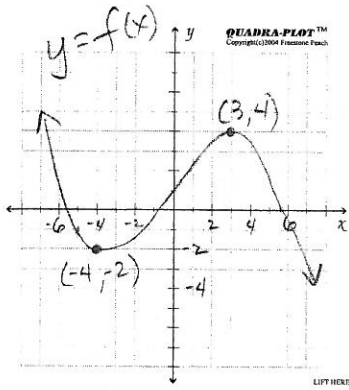


# AFM - Review functions

Key



domain:  $\frac{(-\infty, \infty)}{(-\infty, \infty)}$   
 range:  $\frac{(-\infty, \infty)}{(-\infty, \infty)}$   
 increasing:  $\frac{(-4, 3)}{(-4, 3)}$   
 decreasing:  $\frac{(-\infty, -4) \cup (3, \infty)}{(-\infty, -4) \cup (3, \infty)}$   
 $f(0) = \frac{1}{1}$   
 $f(-5) = \frac{-1}{-1}$

domain:  $\frac{[-6, 2]}{[-6, 2]}$   
 range:  $\frac{(-5, -3] \cup [-2, 4]}{(-5, -3] \cup [-2, 4]}$   
 increasing:  $\frac{(-2, 2)}{(-2, 2)}$   
 decreasing:  $\frac{(-6, -2)}{(-6, -2)}$   
 $g(-4) = \frac{1}{1}$   
 $g(-2) = \frac{-2}{-2}$   
 $g(0) = \frac{-4}{-4}$

d:  $\frac{[-4, 4]}{[-4, 4]}$   
 r:  $\frac{[0, 4]}{[0, 4]}$   
 $\uparrow$ :  $\frac{(-4, 0)}{(-4, 0)}$   
 $\downarrow$ :  $\frac{(0, 4)}{(0, 4)}$   
 $h(-4) = \frac{0}{0}$   
 $h(0) = \frac{4}{4}$

Find the domain of the following algebraically.

4.  $f(x) = 4x^2 - 2x + 1$   
 $(-\infty, \infty)$

5.  $f(x) = 3x^3 - 2$   
 $(-\infty, \infty)$

6.  $f(x) = \frac{4x^2 - 2}{3x - 1}$   
 $x \neq \frac{1}{3}$   
 $(-\infty, \frac{1}{3}) \cup (\frac{1}{3}, \infty)$

7.  $f(x) = \sqrt{4x - 3}$   
 $x \geq \frac{3}{4}$   
 $[\frac{3}{4}, \infty)$

8.  $f(x) = x^4 \sqrt{3 - 2x}$   
 $x \leq \frac{3}{2}$   
 $(-\infty, \frac{3}{2}]$

9.  $f(x) = \frac{2x + 1}{x^2 - x - 12}$   
 $x \neq -3, x \neq 4$   
 $(-\infty, -3) \cup (-3, 4) \cup (4, \infty)$

10.  $f(x) = \sqrt[3]{3x - 2}$   
 $(-\infty, \infty)$

11.  $f(x) = \frac{5}{\sqrt{x - 3}}$   
 $x > 3$   
 $(3, \infty)$

12.  $f(x) = \frac{\sqrt{x - 4}}{x - 6}$   
 $x \geq 4, x \neq 6$   
 $[4, 6) \cup (6, \infty)$

13.  $f(x) = \frac{\sqrt{2x - 3}}{(x - 5)(x - 2)}$   $x \geq \frac{3}{2}$   
 $x^2 = 7x + 10$   
 $(x - 5)(x - 2)$   $x \neq 2, x \neq 5$   
 $[\frac{3}{2}, 2) \cup (2, 5) \cup (5, \infty)$