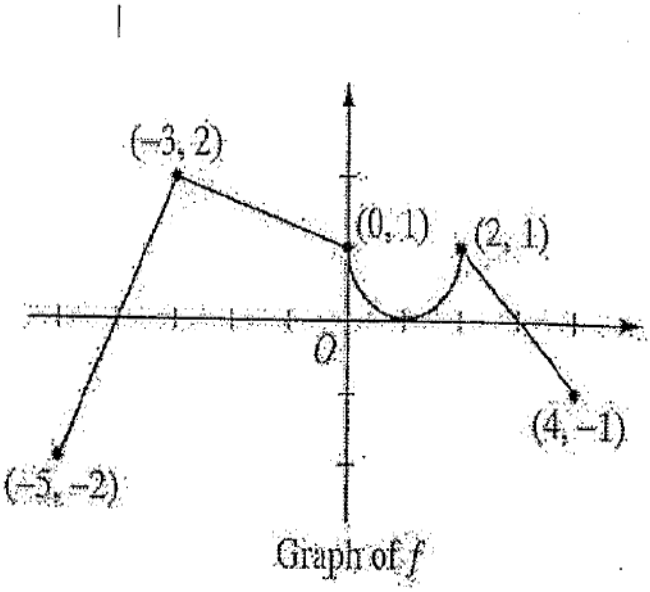
Review for Midterm 1– FTC, Extrema, Tangent Lines **Name:**

AP Calculus

The following problems will be excellent review for the upcoming quiz. This is due Monday 1/12 and is worth 5 points.

1) The graph of the function f shown below consists of a semi-circle and three line segments.

Let g(x) = $\int_{-5}^{x} f(t)dt$



a) a) Determine g(0)

b) b) Determine g'(0)

c) c) Find all values of x in the interval (-5,4) where g(x) has a relative maximum. Justify.

d) Find the absolute minimum value of g(x) on the interval [-5,4]. Justify.

e) Find all x-values in the interval (-5,4) where g(x) has an inflection point. Justify.

f) Write the equation of the line tangent to g(x) at x = -5