

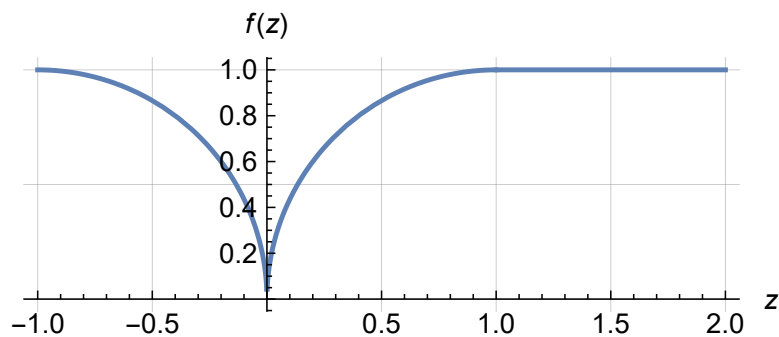
**MAT 136 (Calculus I) Prof. Swift**  
**In-class worksheet on the Fundamental Theorem of Calculus**

1.  $\int \frac{d}{dx} \left[ \frac{\sin(x)}{x^2 + 1} \right] dx =$

2. If  $g(0) = 0$  and  $g'(x) = e^{-x^2}$ , then  $g(x) =$

3.  $\frac{d}{dx} \int_x^{2x} e^{-t^2} dt =$

4. Let  $g(x) = \int_0^x f(z) dz$ , where  $f$  is the function graphed below.



$g(-1) =$                       ,  $g(0) =$                       ,  $g(1) =$                       ,  $g(2) =$                       ,  $g'(1.5) =$