

To receive credit you **MUST SHOW ALL YOUR WORK.**

1. Evaluate (3 pts each):

(a)  $\int_{-1}^1 |2x-1| dx$

(b) Area under  $g(x) = \frac{1}{3x+1}$  when  $x \in [0, 1]$

(c)  $\int_0^{\sqrt{3}} x\sqrt{1+x^2} dx$

(d) Average value of  $f(x) = \frac{1}{\sqrt{1-x^2}}$  when  $x \in [0, \frac{1}{2}]$