Present neatly ~~on separate paper~~. Justify for full credit. No Calculators.

Name _____ Score _____ ~10 minutes

1.

Show that the triangle that is formed by any tangent line to the graph of $y = 1/x, x > 0$, and the coordinate axes has an area of 2 square units.

[5 points]

2.

Find conditions on a, b, c, and d so that the graph of the polynomial $f(x) = ax^3 + bx^2 + cx + d$ has

(a) exactly two horizontal tangents
(b) exactly one horizontal tangent
(c) no horizontal tangents.

[5 points]