

NAME: _____

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Worksheet Jan. 26 – Calculus 1, Spring 2017

1. (a) Use IVT to show that the equation $x^3 - 8x^2 + 1 = 0$ has three real roots. Find intervals of length 1 containing each of these roots.

(b) Use the method of bisection to approximate one of the roots of the equation $x^3 - 5x^2 + 1 = 0$ to within 0.25.

2. (a) Determine the points of discontinuity for the function $f(x) = \frac{1+\sin x}{\cos x}$.

(b) Use limits to understand the behavior of the function near the points of discontinuity. Are any of these removable discontinuities?