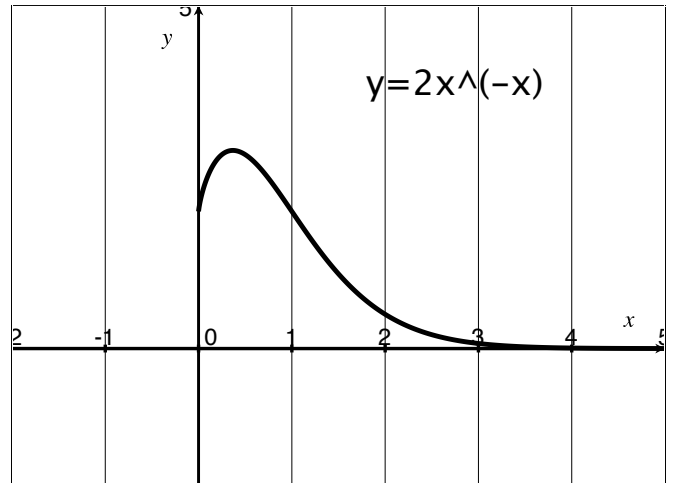


TMATH 124: Quiz 4

Show *all* your work (numerically, algebraically, or geometrically) for each and simplify. No credit is given without supporting work. No calculators or notes are allowed.

1. Consider the function $f(x) = 2x^{-x}$, graphed below.

(a) [4] (WebHW12 #10) Find $f'(x)$



(b) [2] (§4.1 #66) Use calculus to find the exact maximum value between 0 and 5.

(c) [1] Find the equation of the line tangent to f that has a slope of zero.

2. [3] (§4.2 #23) If $g(1) = 10$ and $g'(x) \geq 2$ for all x between 1 and 4, how small can $g(4)$ possible be? Justify your answer.