

Review: e^x & some core concepts

1/22/18

// These problems are not to hand in, but they may help refresh
// concepts on the first homework.

// Work with those around you, and call me over for questions!

• Limits.

1) $\lim_{x \rightarrow (\pi/2)^-} e^{\tan x}$

2) $\lim_{x \rightarrow (\pi/2)^+} e^{\tan x}$

• Derivatives

3) $\frac{d}{dx}(e^{5x})$

4) $\frac{d}{dx}(x^{5 \cdot e})$

5) $\frac{d}{dx}(\tan(e^x))$

6) $\frac{d}{dx}(e^{\tan(e^x)})$

• Integrals & u-substitution

7) $\int_0^L e^{-2x} dx$

(express the answer in terms of L)

8) $\int e^x (e^x + 1)^3 dx$

9) $\int_0^1 e^{2x} \sqrt{1+e^x} dx$