

Math 1121

Homework #13

#32, #33

#32  $\frac{t^2 e^{2t}}{t + e^{3t}}$

prod. rule from numerator

$$\frac{(t + e^{3t}) \cdot (t^2 \cdot e^{2t} \cdot 2 + e^{2t} \cdot 2t) - t^2 e^{2t} \cdot (1 + e^{3t} \cdot 3)}{(t + e^{3t})^2}$$

#33

$$e^{x\sqrt{3x+2}} = e^{x \cdot (3x+2)^{1/2}}$$

$$e^{x \cdot (3x+2)^{1/2}} \cdot \left( x \cdot \frac{1}{2} (3x+2)^{-1/2} \cdot 3 + (3x+2)^{1/2} \cdot 1 \right)$$

prod. rule from exponent