

Homework #1 Final Answers

31. $f(x) = e^5$

$$f'(x) = 0$$

32. $K(r) = e^r + r^e$

$$K'(r) = e^r + e r^{e-1}$$

34. $y = \frac{e^x}{1-e^x}$

Fill Here

$$y' = \frac{e^x}{(1-e^x)^2}$$

36. $g(x) = e^{x^2-x}$

$$g'(x) = e^{x^2-x} \cdot (2x-1)$$

37. $y = e^{\tan \theta}$

$$y' = e^{\tan \theta} \cdot \sec^2 \theta$$

40. $y = x^2 e^{-1/x}$

Fill Here

$$y' = e^{-1/x} [1+2x]$$

46. $y = e^{\sin(2x)} + \sin(e^{2x})$

$$y' = e^{\sin(2x)} \cdot \cos(2x) \cdot 2 + \cos(e^{2x}) \cdot e^{2x} \cdot 2$$

or can also factor 2

49. $y = \cos \left[\frac{1-e^{2x}}{1+e^{2x}} \right]$

Fill Here

$$y' = \sin \left[\frac{1-e^{2x}}{1+e^{2x}} \right] \cdot \left(\frac{4e^{2x}}{(1+e^{2x})^2} \right)$$

- Show all work. All steps.
- These are only Final Answers to check!