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ID# _____

Ser# _____

Q1. Let $y = \frac{(1+1/x)^x}{1+3x^2}$. Find $\frac{dy}{dx}$.

Q2. Sand falls from a conveyor belt at a rate of $20m^3/\text{min}$ on top of a Conical pile. The height of the pile is always three-eighths of the base diameter. How fast is the height changing when the pile is $4m$ height? (Hint: volume of the conical pile is $V = \frac{1}{3}\pi r^2 h$)

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