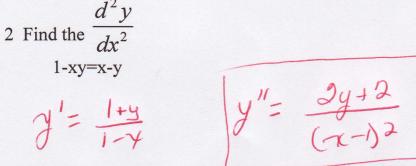
Review before Implicit fest

Find dy/dx for the following curve 1. $x^{2} v + v^{2} x = -2$

y'= -2xy-y



3 Joey is perched precariously at the top of a 10 foot ladder leaning against the back wall of an apartment building when it starts to slide down the wall at a rate of 4ft/min. Joey's accomplice, Lou is standing on the ground 6 ft away from the wall. How fast is the base of the ladder moving when it hits

 $y=8 \ y'=-4 \ ft/min \ x'= 32 \ ft/min \ c=10 \ c'=0$ lou? x=6 x'=?

4. Find dy/dx of the curve $y=\cos^3(x^2)$

y'= -6x (cosx) sin x?

5. A cone-shaped icicle is dripping from the roof.

The radius of the icicle is decreasing at a rate of 0.2 cm/hour, while the length is increasing at a rate of 0.8 cm/hour.

If the icicle is currently 4 cm in radius and 20 cm long, is the volume of the $V = -\frac{19.5\pi}{3}$ $V = -20.106 \text{ cm}^3/\text{hc}$ icicle increasing or decreasing, and at what rate?

$$r' = -.2 \quad r = 4$$

 $r' = -.8 \quad h = 20$

Now let's find the equation of the line tangent to the 6 curve $x^2 y + 3x = y^2 + 1$ at the point (1, -1)

-1 x - 2

decreasing a