1. I don’t understand volumes of revolution. Can you show me how to find the volume of \( f(x) = x^2 - x \) from \( x = 0 \) to \( x = 1 \), rotated about the line \( x = 5 \)?

2. I don’t understand areas of revolution. Can you show me how to find the surface area of \( f(x) = x^2 - x \) from \( x = 0 \) to \( x = 1 \), rotated about the line \( x = 5 \)?

3. I don’t understand implicit derivatives. Why do we care about this and how do we do it.
   
   (a) So, when I take the derivative of something with \( y \) in it, I just put in a \( dy/dx \)?
   
   (b) Why can’t we just solve for \( y \) and then take the derivative?
   
   (c) What if I want to take \( d/dt \)? What changes then?

4. I don’t understand how to take the derivative of \( y = \sin(x^2 + 1) \).

5. I don’t understand why \( \int_1^\infty x^{-2} \, dx \) exists but \( \int_1^\infty x^{-1} \, dx \) does not.

6. I don’t understand how to integrate \( \int \frac{x}{x+1} \, dx \).

7. I don’t understand how to integrate \( \int \frac{x^2}{x+1} \, dx \).
8. I don’t understand how to integrate $\int \frac{x}{(x+1)^2} \, dx$.

9. I don’t understand how to integrate $\int \frac{x}{(x+1)^3} \, dx$.

10. How do you integrate $\int_0^5 \sqrt{25 - x^2} \, dx$?

11. How do you integrate $\int \sqrt{25 - x^2} \, dx$?