Does $\int x\ dx$ seem similar to $\int u\ du$? Explain how you would find the antiderivative of each.

Does $\int e^x \, dx$ seem similar to $\int e^u \, du$? Explain how you would find the antiderivative of each.

Does $\int \cos(x)\ dx$ seem similar to $\int \cos(u)\ du$? Explain how you would find the antiderivative of each.

How do you think substitution allows us to find antiderivatives of those that “didn’t work” from our activity yesterday?

Find $\int \frac{1}{2}(1-x^2)^{-\frac{1}{2}}(-2x)dx$ using substitution. Work with your partner to find the solution. What is u? What is du? What is the general solution?