

1. Evaluate each of the following:

(a) $\int_1^4 (x + x^{3/2}) dx$

(b) $\int_{-2}^5 \frac{dx}{x+3}$ [Hint: What is an antiderivative of $\frac{1}{u}$?]

(c) $\int_0^b x^2 dx$

2. What is the volume of a cylinder with a radius of r and height of h ?
Why is your formula correct?

3. What is the volume of a sphere with a radius of r ?
Why is your formula correct?