

**Spring 2018-2019**  
**Math 342**  
*Applied Mathematics*

**Apr 2**

Solve the given Volterra integral equation by the successive substitutions method.

1.  $y(x) = \frac{x^2}{2} + \int_0^x y(t) dt$

2.  $y(x) = \frac{x^3}{6} + \int_0^x (x-t)y(t) dt$

3.  $y(x) = 1 - \frac{x^2}{2} - \int_0^x 342y(t) dt$

4.  $y(x) = 1 - x + \int_0^x 4y(t) dt$

5.  $y(x) = 1 - x + \frac{1}{2}x^2 - \int_0^x (x-t)y(t) dt$