

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

**Feb 25**

Solve the given Fredholm integral equation using the successive substitutions method.

$$1. \quad y(x) = 1 - \frac{1}{4} \int_0^{\pi/2} \cos xy(t) dt$$

$$2. \quad y(x) = \cos x + \frac{1}{2} \int_0^{\pi/2} \sin xy(t) dt$$

$$3. \quad y(x) = \frac{9}{10}x^3 + \frac{1}{2} \int_0^1 x^3 ty(t) dt$$

$$4. \quad y(x) = 1 + \frac{1}{2} \int_0^{\pi/2} \sin xy(t) dt$$

$$5. \quad y(x) = 1 + \frac{1}{5} \int_0^{\pi/3} \sec x \tan xy(t) dt$$