Defining futures

# School of Natural Sciences 

Department of Mathematics
Quiz 1 (Integral Equations), Spring 2020
Date: February 12, 2020

AQ. Find the characteristic values and associated non-trivial solutions (if any) of the equation

$$
\begin{equation*}
h(x)=\lambda \int_{0}^{2 \pi} \sin x \cos y h(y) d y \tag{1}
\end{equation*}
$$

RQ. Consider the integral equation

$$
\begin{equation*}
t=\int_{0}^{t}\left(e^{t}+e^{x}\right) \varphi(x) d x \tag{2}
\end{equation*}
$$

(a) Tick the appropriate option in each case (only one). Integral equation (2) is:

1. Volterra

Fredholm
2. Linear

Non-Linear
3. Homogeneous

Non-Homogeneous
4. Singular

Non-Singular
(b) Transform the first kind integral equation (2) to a second kind integral equation.

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[^0]:    "If you believe it will work out, you'll see opportunities. If you believe it won't, you will see obstacles." - Wayne Dyer.

