Assignment 4 of MAT 3270B
no need to hand in

3.1: 1, 4, 7, 17, 21, 22, 23, 27

3.2: 1, 3, 6, 7, 11, 14, 15, 17, 19, 20, 23, 25

3.3: 3, 4, 9, 11, 13, 19, 20, 24, 25, 26

Supplement Problem

1. Consider the following two functions:

   \[ y_1(t) = \begin{cases} 
   t^2, & t \leq 0, \\
   0, & t > 0 
   \end{cases}, \quad y_2(t) = \begin{cases} 
   0, & t \leq 0, \\
   t^2, & t > 0 
   \end{cases} \]

Show that \( \{y_1, y_2\} \) is linearly independent but \( W[y_1, y_2](t) \equiv 0 \). What’s wrong?