

Math 376, Spring 2018

Homework 9

Due: April 18, 2018 in your discussion section

(1) (Apostol 6.9.13)

(2) (Apostol 6.9.15)

[Hint: Use the formulas $\sinh(x) = (e^x - e^{-x})/2$ and $\cosh(x) = (e^x + e^{-x})/2$.]

(3) (Apostol 6.9.16, 6.9.17)

[Side remark: if we allow the r_i to be complex and extend our definitions appropriately, this will also take care of linear independence of the solutions we find even when the characteristic polynomial has complex roots. But don't worry about doing this extension.]

(4) (Apostol 6.15.5)

[If you want more practice, do some of the other problems 1–10 but you just need to turn in #5]

(5) (Apostol 6.15.15)