# Math 177 Homework 6

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## Section 7.1

1. $D_{mac} = \dfrac{nFv_j^n + \sum_{t=1}^n tFrv_j^t}{Fv_j^n + \sum Frv_j^t} = \dfrac{10(1.118^{-1} + 2*1.118^{-2}) + 3*110*1.118^{-3}}{10(1.118^{-1} + 1.118^-2) + 110*1.118^{-3}} = \boxed{2.729364}$

2. $D_{mac} = \dfrac{nFjv_j^n + \sum_{t=1}^n tFjv_j^t}{Fv_j^n + \sum Fjv_j^t} = \dfrac{nFjv_j^n + \sum_{t=1}^n tFjv_j^t}{Fv_j^n + Fja_{\overline{n}|j}} = \dfrac{nFjv_j^n + \sum_{t=1}^n tFjv_j^t}{Fv_j^n + F(1 - v_j^n)} = njv_j^n + \sum_{t=1}^n tjv_j^n =$

   $njv_j^n + j(Ia)_{\overline{n}|j} = \ddot{a}_{\overline{n}|j} \implies \boxed{D = \ddot{a}_{\overline{6}|10\%} = 4.790787}$

5.

6.

8.

14.

## Section 7.2

5.

6.

7.

1