

Quiz B for 4:00 Class: 2/11/13

Name Key

Assume you have collected the following information on McDonald's (MCD). Set up the calculations (equations and all relevant numbers) to determine the annual rate of return (annualized return) on MCD between 12/31/11 and 5/31/12 assuming

- a. you reinvested all dividends
- b. you did not reinvest any dividends.

| Date     | Dividend | Price  | Day |
|----------|----------|--------|-----|
| 12/31/11 | -        | 100.33 | 0   |
| 2/28/12  | 0.70     | 99.78  | 59  |
| 5/31/12  | 0.77     | 89.34  | 152 |
| 6/30/12  | -        | 88.53  | 182 |
| 8/30/12  | 0.77     | 88.70  | 243 |
| 11/29/12 | 0.77     | 86.49  | 334 |
| 12/31/12 | -        | 88.21  | 366 |

Note: 2012 was a leap year and had 366 days

Wall Street Journal Questions are on the back of this page.

$$\begin{aligned}
 \text{a. } r_{2/28} &= \frac{0.7}{100.33} + \frac{99.78 - 100.33}{100.33 + 1} \quad (11) \\
 r_{5/31} &= \frac{0.77}{99.78} + \frac{89.34 - 99.78}{99.78} \quad (8)
 \end{aligned}$$

$$r = (1 + r_{2/28})(1 + r_{5/31}) - 1 \quad (3)$$

$$r(1) = (1 + r)^{366/152} - 1 \quad (5)$$

$$\text{b. NPV} = 0 = -100.33 + \frac{0.7}{(1+r)^{59/366}} + \frac{0.77 + 89.34}{(1+r)^{152/366}} \quad (21)$$

→ solve for r 2