

## Economics 134A, Fall 2004

## MIDTERM 2

## SOLUTIONS

NAME: \_\_\_\_\_

Your TA (circle one): Ying (Tracy) Sun, Wei Cui, Byung Seo,  
 Marick Sinay, Francisco Azeredo, Darius Martin

Section time: \_\_\_\_\_

FOR FULL CREDIT YOU NEED TO SHOW YOUR CALCULATIONS FOR EACH QUESTION.

1. Tracy buys 100 shares of stock for \$54. This stock pays a dividend of \$2 per share at the end of one year. Tracy reinvests this money in more shares. At that time the price of the stock is \$50. After another year Tracy receives another dividend of \$2 per share. Upon receiving this dividend, Tracy sells out her position. The price at that date is \$61.

What is the two-year total return on the stock?

today:  $\longrightarrow$  end of year 1:  $\longrightarrow$  end of year 2:

$$\begin{aligned} \text{Invest} \\ (100 \text{ shares}) \times \$54 &= \\ &= \$5,400 \end{aligned}$$

$$\begin{aligned} \text{Total Dividend} &= (100 \text{ shares}) \times \$2 \\ &= \$200 \end{aligned}$$

Use \$200 to buy  $\frac{\$200}{\$50}$  more shares of stock.

$$\text{Number of new shares} = \frac{\$200}{\$50} = 4.$$

Total # of shares is now 104.

Can sell all shares at price \$61:

$$\$61 \times 104 = \$6,344$$

Also, get a \$2 dividend on each share:

$$\$2 \times 104 = \$208.$$

So, total gain is:

$$\begin{aligned} \$6,344 + \$208 &= \\ &= \$6,552 \end{aligned}$$

$$\text{2-year total return} = \frac{\$6,552 - \$5,400}{\$5,400} = 21.33\%$$