

All bonds in this quiz are default-risk-free.

1. Bond B is a zero-coupon bond with a time to maturity of 3 years. Bond C is a coupon paying bond with a duration of 1.9 years. If the yield curve makes a parallel upward shift, then bond C's price

- A. decreases and it decreases by more than bond B's price
- B. decreases and it decreases by less than bond B's price
- C. increases and it increases by more than bond B's price
- D. increases and it increases by less than bond B's price

2. Assume a flat yield curve of 2%. Bond A is a coupon-paying bond with annual coupons of \$100, a face value of \$1000, it is trading at \$1230, and has a maturity of 3 years. What is duration of this bond?

- A. 3.00 years
- B. 1.01 years
- C. 4.00 years
- D. 2.00 years
- E. 2.76 years

3. Bond A is as described in question 2. What is the composition of a portfolio of zero-coupon bonds with face values of \$100 that replicates the cash flows of bond A?

of 1-year zeros + of 2-year zeros + of 3-year zeros

4. Let's assume that the market price of asset X is \$1000 and asset X's replicating portfolio consists of 10 of asset Y and 20 of asset Z. The price of asset Y is \$90 and the price of asset Z is \$10. Does there exist an arbitrage opportunity?

- A. No
- B. Yes, it involves buying asset X
- C. Yes, it involves buying assets Y and Z
- D. Yes, it involves short selling asset X

5. The 1-year interest rate is 2% per year and the 2-year interest rate is 3% per year. What is the one-year forward rate starting in one year, i.e., $f_{1 \rightarrow 2}$, in percentage per year?

- A. 2%
- B. 3%
- C. 3.5%
- D. 4%