1) Risk is defined as the standard deviation of expected returns.

2) Should interest rates rise, zero-coupon bonds will decline in price at a lower rate than coupon bonds.

3) A Call Option gives the writer the right, but not the obligation, to purchase a share of stock at the exercise price.

4) A Put Option gives the writer the right, but not the obligation, to sell a share of stock at the exercise price.

5) A synthetic share of Stock can be engineered by: a Long Call and a Short Put.

6) A synthetic short share of Stock can be engineered by: a Short Call and a Long Put.

7) Share price insurance can be achieved by a long Put.

8) Long stock return enhancement involves long the stock w/ a short Call.

9) Growth stocks will have higher forward P/E’s than trailing P/E’s.

10) Option premiums are inversely related to the stock’s historical volatility.

Assume a positively sloped Yield Curve with this Term Structure:

<table>
<thead>
<tr>
<th></th>
<th>1 year</th>
<th>2 years</th>
<th>3 years</th>
<th>4 years</th>
<th>5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2%</td>
<td>3%</td>
<td>4%</td>
<td>5%</td>
<td>6%</td>
</tr>
</tbody>
</table>

11) The price of the above bond according to this term structure now closest to:

(a) $986    (b) $1,086    (c) $1,186    (d) $1,286
12) The RCYTM of the above bond purchased at the upwardly-sloped yield curve is closest to:
   (a) 4.40%  (b) 5.40%  (c) 6.40%  (d) 7.40%

13) Assume that you purchase the bond at the (correct) price above and sold it immediately after you capture its first coupon. Your AHPR is closest to?
   (a) 6.50%  (b) 7.50%  (c) 8.50%  (d) 9.50%

14) The RCYTM for the investor who purchased the 4 year 10% coupon bond from you is closest to ____________, assuming that the sloped yield curve remains stable.
   (a) 4.61%  (b) 5.61%  (c) 6.61%  (d) 7.61%

NFLX is at $91.25 today. You are Bearish on this stock. Below are the Options Premiums for the NFLX October (21st) $90 Options.

<table>
<thead>
<tr>
<th></th>
<th>BID</th>
<th>ASK</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALL</td>
<td>$ 7.45</td>
<td>$ 7.65</td>
</tr>
<tr>
<td>PUT</td>
<td>$ 6.10</td>
<td>$ 6.25</td>
</tr>
</tbody>
</table>

Find the Net Dollar Payoff to the following Positions if NFLX closes at $85.00 on October 21, 2016:

15) Long the Stock:
   (a) $4.25  (b) $5.25  (c) $6.25  (d) 47.25

16) Long the Stock, Long the Call:
   (a) ($1.20)  (b) ($0.30)  (c) $0.30  (d) $1.05

17) Long the Stock, Long the Put:
   (a) $7.50  (b) $8.70  (c) $8.90  (d) $9.15

18) Long the Put:
   (a) $1.10  (b) ($1.10)  (c) ($2.45)  (d) ($2.65)
19) Short the Call:
(a) $6.10   (b) $6.25   (c) $7.60   (d) $12.45

20) Short the Call, Long the Put:
(a) $6.35   (b) $6.40   (c) $6.55   (d) $6.75

You are an investor with a two-year investment horizon. Consider the three U.S. Treasury bonds below. Each is just now issued with a Par value = $1,000, a ten-year maturity with no default risk, The YTM of each at issuance is = 8%. Assume a flat yield curve and the that that interest rates will not change. You may use the Table below to help organize your calculations.

<table>
<thead>
<tr>
<th>Zero</th>
<th>8% Coupon</th>
<th>10% Coupon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Price P₀</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price in 2 years, P₂</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Income</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21) \( P₀ \) of the Zero is closest to:
(a) $ 463   (b) $ 500   (c) $1,000   (d) $1,125

22) \( P₂ \) of the Zero is closest to:
(a) $ 463   (b) $ 500   (c) $540   (d) $1,000

23) Total income from the Zero is closest to:
(a) $ 37   (b) $ 77   (c) $160   (d) $ 181

24) The annualized rate-of-return of the Zero held for 2 years is closest to:
(a) 8.0 %   (b) 8.5 %   (c) 9.0 %   (d) 9.5 %   [e] 10.0 %

25) \( P₀ \) of the 8 percent coupon bond is closest to:
(a) $ 840   (b) $1,000   (c) $1,115   (d) $1,134

26) \( P₂ \) of the 8 percent coupon bond is closest to:
(a) $ 840   (b) $ 920   (c) $1,000   (d) $1,115
27) The annualized return of the 8 percent coupon bond with reinvestment is closest to:
   (a) 7.7%  (b) 8.0%  (c) 8.25%  (d) 9.0%  [e] 9.10% 
28) $P_0$ of the 10 percent coupon bond is closest to:
   (a) $1,000  (b) $1,134  (c) $1,114  (d) $1,124
29) $P_2$ of the 10 percent coupon bond is closest to:
   (a) $1,000  (b) $1,134  (c) $1,114  [d] $1,124

**Beach Balls, Inc. just paid an annual dividend of $1.50. Its dividend growth rate is 8% and the market RRR is 15%.**

30) Beach Balls’ intrinsic stock price is closest to:
   [a) $23.00  [b) $28.00  [c) $31.00  [d) $34.00  (e) $37.00
31) The two-year Target Price for Beach Ball’s stock at a RRR = 15% is closest to:
   [a) $31.00  [b) $36.00  [c) $41.00  [d) $46.00  (e) $51.00
32) If Analysts change the expected growth rate to 10%, then Beach Balls’ intrinsic stock price is closest to:
   [a) $28.00  [b) $33.00  [c) $38.00  [d) $41.00  (e) $44.00
33) If investor’s believe that the higher growth rate will introduce more risk and so the RRR increases to 18%, then Beach Balls’ intrinsic stock price is closest to:
   [a) $21.00  [b) $23.00  [c) $25.00  [d) $27.00  (e) $29.00
34) With a growth rate of 10 percent and a RRR of 18%, Beach Ball’s growth only value is closest to:
   [a) $18.00  [b) $20.00  [c) $27.00  [d) $30.00  (e) $32.00
35) With a RRR of 18%, Beach Ball’s No Growth value is closest to:
   [a) $8.18  [b) $9.17  [c) $10.16  [d) $11.15  (e) $12.14
Use the MPT to answer the following questions, given:
\[ E(r_s, r_b) = (10\%, 5\%) \]
\[ E(\sigma_s, \sigma_b) = (20\%, 10\%) \]
\[ \rho_{sb} = \text{negative } 0.50 \]

36) If the risk-free rate is 0%, the **Minimum Variance Portfolio** as characterized as \((\omega_s, \omega_b)\) is closest to:
   
   (a) (0.24, 0.76)  
   (b) (0.25, 0.75)  
   (c) (0.26, 0.74)  

37) The reward-to-variability ratio of the **Minimum Variance Portfolio** is closest to:

   (a) 0.90  
   (b) 0.95  
   (c) 1.00  

38) If the risk-free rate is 0%, the **Optimal Portfolio** as characterized by as \((\omega_s, \omega_b)\) is closest to:

   (a) (0.35, 0.65)  
   (b) (0.36, 0.64)  
   (c) (0.37, 0.63)  

39) The Return/Risk ratio for the **Optimal Portfolio** above is closest to:

   (a) 0.90  
   (b) 0.95  
   (c) 1.00  

Using the **Optimal Portfolio** above with it Stock & Bond weights, assume that you can borrow at a risk-free rate of 2 percent and decide to lever your funds into 150% of the optimal portfolio.

40) The **\( E(r_p) \)** expected return of the levered optimal portfolio will be closest to:

   (a) 7.90%  
   (b) 8.90%  
   (c) 10.90%  

41) The **\( E(\sigma_p) \)** expected return of the levered optimal portfolio will be closest to:

   (a) 9.97%  
   (b) 11.97%  
   (c) 13.97%