ACTL3182 Revision No Last Q

Let this kahoot inspire your own quiz for formative assessment.

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A private kahoot

Questions (17)

1 - Word cloud

What was your favourite part of the course? 30 sec

2 - Quiz

Which utility function is equivalent to $U(w)$ under the expected utility theorem? 30 sec

- $U(-w)$ ✗
- $aU(w)+b, \quad b>0$ ✗
- $aU(w)+b, \quad a>0$ ✓
- $\exp(U(w))$ ✗

3 - Quiz

Which of the following is a possible utility function for a non-satiated risk-averse investor? Assume $w>0$. 60 sec

- $u(w)=-w^2$ ✗
- $u(w)=\ln w$ ✓
- $u(w)=w^{1.5}$ ✗
- $u(w)=\sin(w)$ ✗

4 - Quiz

In the mean-variance portfolio optimisation with only risky assets, the shape of the minimum variance set is a

20 sec

- Straight Line ✗
- Parabola ✗
- Hyperbola ✓
- Concave function ✗

5 - Quiz

What is the equation for beta in the Capital Market Line?

30 sec

- $\beta_i = \sigma_{iM} \div \sigma_M^2$ ✗
- $\beta_i = \sigma_i \sigma_M$ ✗
- $\beta_i = \sigma_i \div \sigma_M$ ✓
- $\beta_i = \sigma_M^2 + \sigma_{\epsilon_i}^2$ ✗

6 - Quiz

Which of the following is not an assumption of APT?

20 sec

- Existence of a market portfolio. ✓
- Factors and noise terms are uncorrelated. ✗
- There is a large number of securities. ✗
- No arbitrage. ✗

7 - True or false

Asset X has an observed return of 5% and a CAPM return of 4%. X is overpriced.

20 sec

- True ✗
- False ✓

8 - Quiz

Let F, C be the prices of a forward and a call with the same asset, maturity, strike. There are no storage costs. Then:

30 sec

- $C = F$ ✗
- $C \leq F$ ✗
- Not enough information. ✗
- $C \geq F$ ✓

9 - True or false

The price of X is equally likely to be $2 or $1 tomorrow. Then, the price of X today is $1.5 (assume no interest).

20 sec

- True ✗
- False ✓

10 - Quiz

Which conditions guarantee no arbitrage in the recombining Binomial Model?

30 sec

- $0 < q < 1$ ✓
- $d < e^r < u$ ✓
- Put-call parity ✗
- All assets have the same return under P. ✗

11 - Quiz

What is the self-financing condition for portfolio $V_t = \phi_t S_t + \psi_t B_t$? 20 sec

- $V_t = \phi_t dS_t + \psi_t dB_t$ ✗
- $dV_t = \phi_t dS_t + \psi_t dB_t$ ✓
- $dV_t = S_t d\phi_t + B_t d\psi_t$ ✗
- $V_T = X, \quad V = e^{-rT} E^Q [X]$ ✗

12 - Quiz

Let $0 \leq s < t$. What is the distribution of $2W_s - W_t$? 60 sec

- $N(0, t - 2s)$ ✗
- Cannot calculate, the normal variables aren't independent. ✗
- $N(0, 2s - t)$ ✗
- $N(0, t)$ ✓

13 - True or false

Let $\gamma = \frac{\mu - r}{\sigma} > 0$. Then, by Girsanov's Theorem $\tilde{W}_t = W_t + \gamma t$ is a P-martingale. 20 sec

- True ✗
- False ✓

14 - Quiz

Let $X_t = (a + bX_t)\,dt + \sigma X_t dW_t$ and $Y_t = X_t^2$. Then, the drift term in dY_t is equal to: 90 sec

- $\sigma^2 X_t^2 dt$ ✗
- $\left(2a\sqrt{Y_t} + \left(2b + \sigma^2\right) Y_t\right) dt$ ✓
- $2\sigma Y_t dW_t$ ✗
- $2\,(a + b)\,Y_t dt$ ✗

15 - Quiz

In the Black-Scholes model, the stock price under Q is given below. What is the distribution of S_t ? 30 sec

- $LN\left(r, \sigma^2\right)$ ✗
- $N\left(\left(r - 0.5\sigma^2\right) t, \quad \sigma^2 t\right)$ ✗
- $LN\left(\left(r - 0.5\sigma^2\right) t, \quad \sigma^2 t\right)$ ✗
- None of the above. ✓

16 - Quiz

Let A, E be the prices of an American/European call option. Given the info below, select the best statement. 90 sec

- $A \leq E$ ✗
- $A \geq E$ ✗
- $A = E$ ✓
- Not enough information. ✗

17 - True or false

I will ace the final and get my exemptions for this course!

20 sec

True ✓

False ✗