Kahoot! **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 $U\left(w\right)$ under the expected utility theorem?

30 sec



$$U\left(-w
ight)$$





$$aU\left(w\right) +b,\quad b>0$$





$$aU\left(w
ight) +b,\quad a>0$$



$$\exp\left(U\left(w\right)\right)$$

3 - Quiz

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

60 sec



$$u\left(w
ight)=-w^{2}$$





$$u\left(w\right) =\ln w$$



$$u\left(w\right)=w^{1.5}$$

$$u\left(w\right) =\sin \left(w\right)$$

20/11/2021, 23
4 - Quiz
In the m
shape of

St

H

Co

5 - Quiz
What is

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

20 sec



- Parabola ×
- Hyperbola •
- Concave function ×

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

30 sec

$$eta_i = \sigma_{iM} \div \sigma_M^2$$

- $eta_i = \sigma_i \sigma_M$
- $eta_i = \sigma_i \div \sigma_M$
- $egin{aligned} egin{aligned} eta_i &= \sigma_M^2 + \sigma_{\epsilon_i}^2 \end{aligned}$

6 - Quiz

Which of the following is not an assumption of APT?

20 sec

- 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
lacksquare C = F	×
$C \leq F$	×
Not enough information.	×
$lacksquare C \geq F$	✓
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
	✓
$d < e^r < u$	✓
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



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

12 - Quiz

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

60 sec



- Cannot calculate, the normal variables aren't independent.
- $N\left(0,2s-t
 ight)$
- $N\left(0,t
 ight)$

13 - True or false

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

20 sec

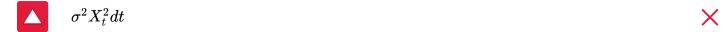
- True >
- ◆ False ✓

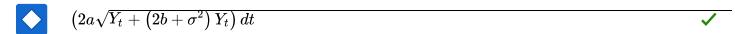
14 - Quiz

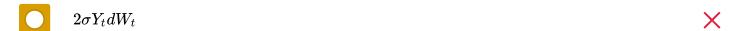
Let $X_t = (a+bX_t)\,dt + \sigma X_t dW_t$ and $Y_t = X_t^2$. Then, the drift term in

90 sec

 dY_t is equal to:







$$igwedge 2\left(a+b
ight)Y_{t}dt$$

15 - Quiz

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

30 sec





$$LN\left(\left(r-0.5\sigma^{2}
ight) t,\quad\sigma^{2}t
ight) imes imes$$



16 - Quiz

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

90 sec



$$A \ge E$$

$$A=E$$

Not enough information.

17 - True or false

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

20 sec



True





False