Free Questions for 8002 by certsinside

Shared by Sandoval on 15-04-2024

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Question 1

I have a portfolio of two stocks. The weights are 60% and 40% respectively, the volatilities are both 20%, while the correlation of returns is 50%. The volatility of my portfolio is

Options:

A- 16%

B- 17.4%

C- 20%

D- 24.4%

Answer:

B

Question 2

The correlation between two asset returns is 1. What is the smallest eigenvalue of their correlation matrix?

Options:

A- 1

B- 0.5

C- 0

D- None of the above

Answer:

C

Question 3

The correlation between two asset returns is 0.5. What is the largest eigenvalue of their correlation matrix?

A- 0.5

B- 1

C- 1.5

D- None of the above

Answer:

C

Question 4

Question Type: **MultipleChoice**

Stress testing portfolios requires changing the asset volatilities and correlations to extreme values. Which of the following would lead to a non positive definite covariance matrix?

Options:

A- Changing the volatilities to be greater than 100%

B- Changing all the correlations to be unity

C- Changing all the correlations to be zero

D- All of the above

Answer:

B

Question 5

Question Type: **MultipleChoice**

Which of the following statements is true for symmetric positive definite matrices?

Options:

A- Its eigenvalues are all positive

B- One of its eigenvalues equals 0

C- If a is its eigenvalue, then -a is also its eigenvalue

D- If a is its eigenvalue, then is also its eigenvalue

Question 6

Question Type: MultipleChoice

Two vectors are orthogonal when:

Options:

A- one is a scalar multiple of the other

B- their components are linearly dependent

C- their determinant is zero

D- their scalar product (sum product) is zero

Answer:

D

Question 7

Let A be a square matrix and denote its determinant by x. Then the determinant of A transposed is:

Options:

A- x -1

B- x

C- ln(x)

D- -x

Answer:

B

Question 8

Calculate the determinant of the following matrix:

Options:

A- 4.25

B- -4.25

C- 4

D- 2

Answer:

D

Question 9

Question Type: MultipleChoice

What is the angle between the following two three dimensional vectors: a=(1,2,3), b=(-4,2,0)?

Options:

A- 90 degrees

B- 180 degrees

C- 57 degrees

D- 45 degrees

Answer:

A

Question 10

Question Type: MultipleChoice

The determinant of a matrix X is equal 2. Which of the following statements is true?

Options:

A- det(2X) =

B- det(2X) = 2 det(X)

C- det(2X) = det(X)2

D- det(2X) = 4 det(X)

Answer:

D