파생금융상품론 10주차 과제

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2020년 11월 15일

13.3)

$a = 2.0, b = 4.0, dt = 12/12$

$$\phi(x + a * dt, b^2 * dt) = \phi(x + 2.0, 16.0)$$

$$N(\frac{x + 2.0}{4.0}) = 0.05$$

$$-\frac{x + 2.0}{4.0} = -1.6449$$

$$x = 4.5794$$

13.5)

$\mu_1 = 2, \mu_2 = 3, dt_1 = 36/12, dt_2 = 36/12, \sigma_1 = 3, \sigma_2 = 4, S_0 = 5,$

$$\phi(S_0 + \mu_1 * dt_1 + \mu_2 * dt_2, \sigma_1^2 dt_1 + \sigma_2^2 dt_2)$$

$$= \phi(20, 75)$$

13.13)

$\mu = 0.16, dt = 12/12, \sigma = 0.3, S_0 = 50, \alpha = 0.95$

$$\phi(S_0 + \mu * dt, \sigma^2 dt)$$

$$= \phi(50.16, 0.09)$$

$$[50.16 - 1.96 \times 0.3, 50.16 + 1.96 \times 0.3]$$

$$[49.572, 50.748]$$

13.14-1)

$a = 1.2, b = 1.3856, dt = 1/12, x = 2$

$$\phi(x + a * dt, b^2 * dt) = \phi(2.1, 0.16)$$

$$\frac{0-\mu}{\sigma} = -5.2502$$
$$N[-5.2502] = 0.0$$

13.14-2)

$a = 1.2, b = 1.3856, dt = 6/12, x = 2$

$$\phi(x + a * dt, b^2 * dt) = \phi(2.6, 0.9599)$$
$$\frac{0-\mu}{\sigma} = -2.6537$$
$$N[-2.6537] = 0.004$$

13.14-3)

$a = 1.2, b = 1.3856, dt = 12/12, x = 2$

$$\phi(x + a * dt, b^2 * dt) = \phi(3.2, 1.9199)$$
$$\frac{0-\mu}{\sigma} = -2.3095$$
$$N[-2.3095] = 0.0105$$