**Solutions to numerical problems from Test 2**

**1:** **$13,700=FV -$1,800=PV 30=N CPT I/Y=7%**

**2:** $\hat{k} = 0.2(10\%) + 0.6(15\%) + 0.2(20\%) = 15\%$

$$\sigma = \sqrt{0.2(10\% - 15\%)^2 + 0.6(15\% - 15\%)^2 + 0.2(20\% - 15\%)^2} = 3.16\%$$

**3:** $$IP = \frac{2.8\%(4) + 3.75\%(4)}{8} = 3.275\%$$

$8.3\% = 2.5\% + 3.275\% + DRP + 0.75 + 0 \qquad DRP = 1.775\%$

**4:** **$200,000=PMT 12%=I/Y 35=N CPT PV=$1,635,100.78**

**$1,635,100.78=FV 12%=I/Y 27=N CPT PMT=$9,653,79**

**5:**

| Year | Cash flow | Frequency |
|---|---|---|
| 0 | $11,000 | |
| 1 | $1,000 | 41 |

NPV I=10% ↓ CPT
NPV=$20,799.14

**$20,799.14=PV 42=N 10=I/Y CPT FV=$1,139,037.68**

Or: BGN!! **$10,000=PV $1,000=PMT 42=N 10=I/Y CPT FV=$1,139,037.68**

**6:** **Bradley:** $k_B = 7\% + (12\% - 7\%)1.3 = 13.5\%$
**Douglas:** $k_D = 7\% + (12\% - 7\%)0.7 = 10.5\%$
**Difference = 3%**

**7:**

| Year | Cash flow | Frequency |
|---|---|---|
| 0 | $0 | |
| 1 | $2,000 | 5 |
| 2 | $3,000 | 3 |
| 3 | $4,000 | 1 |

NPV I=14% ↓ CPT
NPV=$11,713.54