Heimadæmi 2

1.

$r = 8\%$
$C_0 = 15$
$A_1 = 40$
$A_2 = (90-50)$
$A_3 = 20$

$$NPV = -C_0 + \frac{A_1}{(1+r)^1} + \frac{A_2}{(1+r)^2} + \frac{A_3}{(1+r)^3}$$

$$= -15 + \frac{40}{(1+8\%)^1} + \frac{(90-50)}{(1+8\%)^2} + \frac{20}{(1+8\%)^3}$$

$$= 72,207$$

Já, fjárfestingin er arðbær. Þar sem NPV>0, þá uppfyllir fjárfestingin væntingar um ávöxtunarkröfu

2.

$P_t = 62$
$P_0 = 52$
$t = 8/52$

$$P_t = P_0 \cdot (1+r)^t$$

$$\Rightarrow y = \sqrt[t]{\frac{P_t}{P_0}} - 1$$

$$\Rightarrow y = \sqrt[8/52]{\frac{62}{52}} - 1$$

$$= 2,137$$

$$= 213,7\% \text{ ávöxtun}$$

3.

$r = 12\%$
$M = 6$

Notum $i_a = (1 + \frac{r}{M})^M - 1$ og fáum:

$$i_a = (1 + \frac{12\%}{6})^6 - 1 = 12,6\%$$

4.

$r = 7\%$
$N = 5$
$P = 600 \text{ þús.}$

$$F = 600 \text{þús} \cdot (1+7\%)^5$$

$$= 841,53 \text{ þús. kr.}$$

5.

Setjum $P = 100$ og þá er $F = 115$.

$$115 = 100(1 + \frac{r}{2})^{2 \cdot 1}$$

$$\Rightarrow \frac{115}{100} = (1 + \frac{r}{2})^2$$

$$\Rightarrow r = 2\sqrt{\frac{115}{100}} - 2$$

$$\Rightarrow r = 0,147 = 14,7\%$$

6.

$P_{1/2} = 100$ pūs.kr.
$P_2 = 200$ pūs.kr
$N_{1/2} = 3/2$
$N_2 = 0$
$r = 10\%$

$$F = 100\text{pūs.kr} \cdot (1+10\%)^{3/2} + 200\text{pūs.kr} \cdot (1+10\%)^{0}$$
$$= 100\text{ pūs.kr}(1+10\%)^{3/2} + 200\text{ pūs.kr}$$
$$= \underline{315.690\text{ kr}}$$