9.10 Z_1, Z_2, Z_3 uavhengige, $U[0,1]$-fordelt.

Snulls innhylling: $\overline{X}_1, \overline{X}_2, \overline{X}_3$

$\overline{X}_3 = Z_3$ $\qquad E[\overline{X}_3 | \mathcal{F}_2] = E[Z_3 | \mathcal{F}_2] = E[Z_3] = \frac{1}{2}$

$\overline{X}_2 = \max\{Z_2, E[\overline{X}_3 | \mathcal{F}_2]\} = \max\{Z_2, \frac{1}{2}\}$, $E[\overline{X}_2 | \mathcal{F}_1] = E[\overline{X}_2]$

$= \frac{1}{2} \cdot \frac{3}{4} + \frac{1}{2} \cdot \frac{1}{2} = \frac{3}{8} + \frac{1}{4} = \frac{3}{8} + \frac{2}{8} = \frac{5}{8}$.

$\overline{X}_1 = \max\{Z_1, E[\overline{X}_2 | \mathcal{F}_1]\}$

$= \max\{Z_1, \frac{5}{8}\}$

$$E[\overline{X}_1] = \frac{3}{8} \frac{\frac{5}{8}+1}{2} + \frac{5}{8} \cdot \frac{5}{8} = \frac{3}{8} \frac{\frac{13}{8}}{2} + \frac{25}{64}$$

$$= \frac{3}{8} \cdot \frac{13}{16} + \frac{50}{128} = \frac{39}{128} + \frac{50}{128} = \underline{\underline{\frac{89}{128}}}$$