

64.17

Abu 1

$$u(200) = 1000(200) - 200^2 = 200000 - 40000 = 160000$$

$$0.30 \left[(200+100)1000 - (200+100)^2 \right] + \dots \rightarrow 0.3(1200)100 - 1200^2$$

$$+ 0.70(1000(200-x) - (200-x)^2) + 0.7$$

$$- 0.7x^2 - 420x + 15000 \quad x = \begin{cases} -633.809 \\ 338092 \end{cases}$$

2)
$$\begin{aligned} u(w) &= w - 0.001w^2 \\ u(w-G) &= E[u(w-x)] \Rightarrow \\ u(100) &= 100 - \end{aligned}$$

$$\Rightarrow (100-G) - 0.001(100-G)^2 = E[(100-x) - 0.001(100-x)^2]$$

$$\Rightarrow 100-G - 0.1 + 0.001G = 100 - E(x) - 0.001E(100-x)^2$$

$$\begin{aligned} .99 - 0.999G &= 100 - E(x) - 0.001V(x) \\ &= 100 - 100 - 0.001(100) \\ &= 0.1 \end{aligned}$$

$$100 - G - 0.0001(100-G)^2 = -0.1$$

$$-0.0001x^2 - 0.8x + 90.1 < \begin{cases} -900.1 \\ 100.1 \end{cases}$$

$$\frac{-8 \pm \sqrt{408-b^2}}{2a}$$

3)
$$(110-G) - 0.001(110-G)^2 = E[(110-x) - 0.001(110-x)^2]$$

$$E(x^2) = V(x) + (E(x))^2 = 200 + 200^2 = 40200$$

$$= 110 - E(x) - 0.001[110^2 - 2(110)E(x) + E(x^2)]$$

$$E(x^2) = V(x) + (E(x))^2 = 200 + 200^2$$

$$= 110 - 200 - 2809 + 68000 + 0.2$$

$$141.1 - 0.66x - 0.001x^2 = 0 \Rightarrow 631.119$$

$$172.2 - 0.66x - 0.001x^2 = 0 \Rightarrow \begin{cases} -860.169 \\ 200.169 \end{cases}$$