EE431/438 Economics of Financial Markets and Institutions

Exercise 2: Decision Under Uncertainty

1. d . If she want her wealth in both states to be equal, how many security j and security k she should buy ? (she is allowed to buy fractions of shares.)

   Given that if she buys j units of security j and k units of security k, her wealth in both states would be equal. Then we can write:

her wealth in state 1	=	her wealth in state 2
$10j + 20k$	=	$12j + 8k$
$\frac{k}{j}$	=	$\frac{1}{6}$

   If she can buy 1 units of security k and 6 units of security j, she would spend \$(12)+(10*6) = 72. Therefore, she must spend \$ $\frac{1200}{72}$ units of secuity k and $\frac{1200}{72} * 6$ units of secuirty j.

* **Note** : $\pi_1 \neq 1 - \pi_2$. **This is because there could be more than 2 states of the world. The information on the two securities given is sufficient to find the prices of the two pure securities for the two states of nature.**