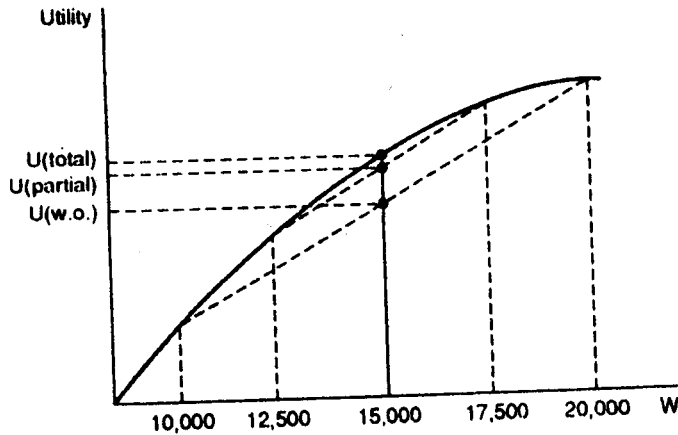


6.

- 8.4 a. $E(L) = .50(10,000) = \$5,000$, so
Wealth = \$15,000 with insurance, 10,000 or \$20,000 without.
- b. Cost of policy is $.5(5000) = 2500$. Hence, wealth is 17,500 with no illness, 12,500 with the illness.



2.

$$u = Y^2$$

- (a) utility of wealth function indicates that she is risk seeking:

$$r(w) = -\frac{u''}{u'} = -\frac{2}{2Y} = -\frac{1}{Y} < 0$$

- (b) $u(100) = 10,000$ with certainty

gamble: \$50 w/ prob. $\frac{1}{2}$, \$150 w/ prob. $\frac{1}{2}$

$$E(u) = \frac{1}{2} u(50) + \frac{1}{2} u(150)$$

$$E(u) = \frac{1}{2} (2500) + \frac{1}{2} (22500) = 12,500$$

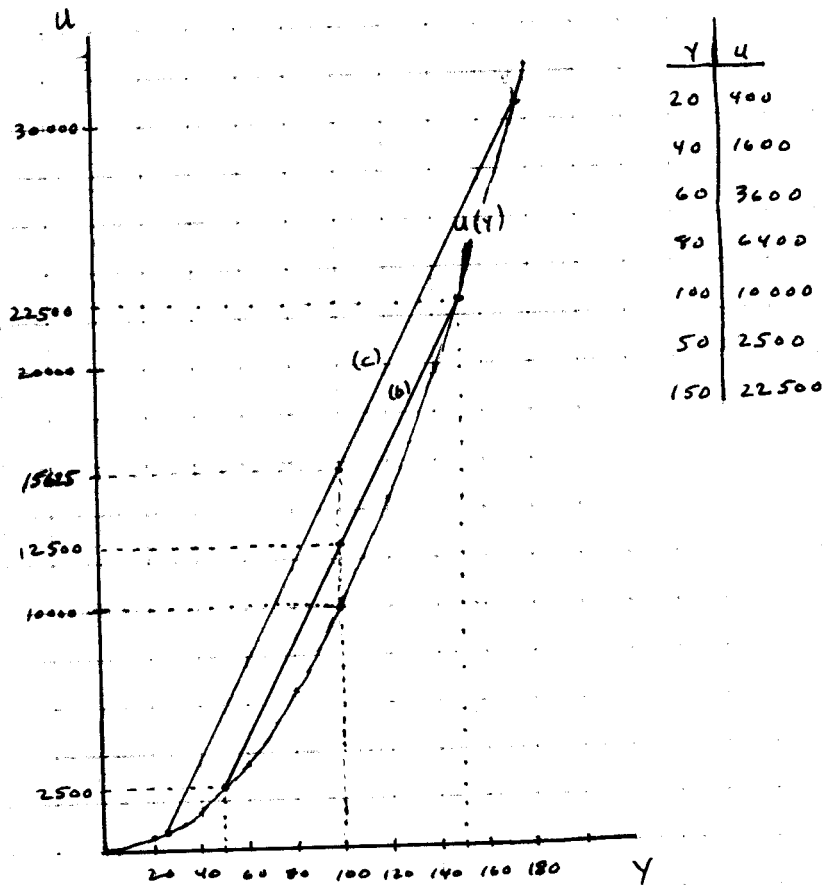
- (c) yes. $E(u) = \frac{1}{2} u(25) + \frac{1}{2} u(175)$

$$E(u) = \frac{1}{2} (625) + \frac{1}{2} (30625) = 15,625$$

- (d) $u = 12,500$ $Y = \sqrt{12500} = 111.8$

Billy Sue would be indifferent between \$111.80 with certainty and the original bet where she gets \$50 or \$150 with equal probability

2. (cont.)



3.

Fertilize: 50 bu w/ prob $\frac{1}{2}$

10 bu w/ prob $\frac{1}{2}$

Expected return is 30 bu

Don't Fertilize: 30 bu w/ prob $\frac{1}{2}$

20 bu w/ prob $\frac{1}{2}$

Expected return is 25 bu

A very risk averse person might prefer the lower variance - lower return bet to the higher variance higher return bet. It has nothing to do with rationality.

So the statement is false.