Question 1

In the absence of the risk-free asset, there is/are

1) one efficient portfolio which is the market portfolio

2) many efficient portfolios

Correction: 2

Question 2

In the presence of the risk-free asset, there is/are

1) one efficient portfolio which is the market portfolio

2) many efficient portfolios

Correction: 2

Question 3

Consider two assets X and Y. Their annual returns have the following moments:

	E[R]	Vol(R)
X	15%	20%
Y	8%	10%

There is a 0.5 correlation between the returns of X and Y. You invest a fraction w of your wealth in asset X and the rest in Y. Write down the expected return on your portfolio and the volatility as a function of w.

You have 1000$ to invest. You sell short 500% worth of Y and invest everything in X. What is the expected return and volatility on your portfolio?

Correction:

E[R] = 15% w + 8% (1-w)

Sigma(R) = (10% w)^2 + (20% (1-w))^2 + 2*w*(1-w)*0.5*20%*10%

The fraction in X is w=1500/1000. Replace in the formulas above.