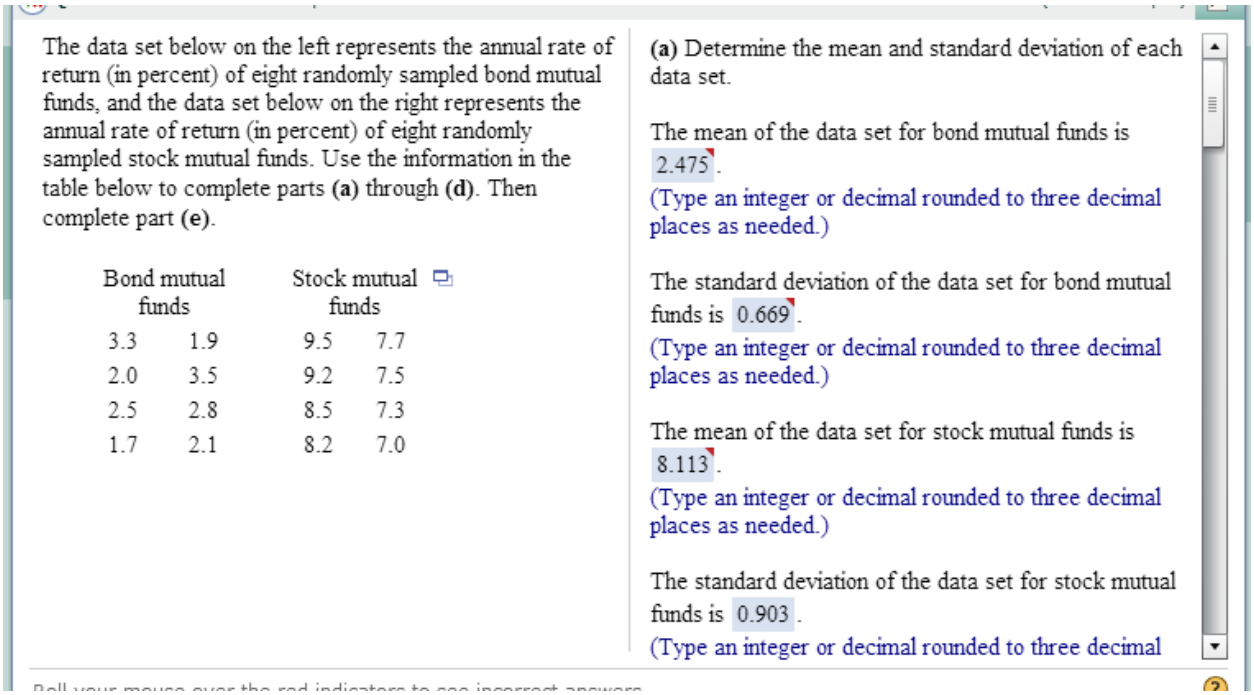
What proportion of the data is within one standard deviation?



The data set below on the left represents the annual rate of return (in percent) of eight randomly sampled bond mutual funds, and the data set below on the right represents the annual rate of return (in percent) of eight randomly sampled stock mutual funds. Use the information in the table below to complete parts **(a)** through **(d)**. Then complete part **(e)**.

Bond mutual funds		Stock mutual funds	
3.3	1.9	9.5	7.7
2.0	3.5	9.2	7.5
2.5	2.8	8.5	7.3
1.7	2.1	8.2	7.0

(a) Determine the mean and standard deviation of each data set.

The mean of the data set for bond mutual funds is 2.475.
(Type an integer or decimal rounded to three decimal places as needed.)

The standard deviation of the data set for bond mutual funds is 0.669.
(Type an integer or decimal rounded to three decimal places as needed.)

The mean of the data set for stock mutual funds is 8.113.
(Type an integer or decimal rounded to three decimal places as needed.)

The standard deviation of the data set for stock mutual funds is 0.903.
(Type an integer or decimal rounded to three decimal

3.2.45

Given that (in this example) the mean of the mutual funds is 2.475 and the standard deviation is 0.669, what proportion of the bond mutual funds are within one standard deviation of the mean?

What numbers *would be* within one standard deviation of the mean?

2.475 + 0.669=3.144 (one st. dev. above)

2.475 - 0.669=1.806 (one st. dev. below)

Look at the bond mutual funds. How many of them are actually between these two numbers we found (between 1.806 and 3.144) ?

Bond mutual funds	
3.3	1.9
2.0	3.5
2.5	2.8
1.7	2.1

2.0, 2.5, 1.9, 2.8, 2.1 are all between. This is 5 of the numbers out of 8 total. 5 divided by 8 is 0.625 which is 62.5% So, 62.5% of the data is within one standard deviation. You are finding the ACTUAL percentage of mutual funds that are within one standard deviation. The empirical rule states that if these are normally distributed, 68% would fall within one standard deviation. But this question asked for the actual percentage given the data, so we had 5 numbers out of 8 total numbers, which is 62.5%.