

1. If the probability that a portfolio outperforms its benchmark in any quarter is 0.75, the probability that the portfolio outperforms its benchmark in three or fewer quarters over the course of a year is closest to:
 - A. 0.26.
 - B. 0.42.
 - C. 0.68.
2. For a standard normal distribution, what is the probability that a random variable lies within 1 standard deviation to 2 standard deviation $P(1 < x < 2)$?
 - A. 13.5%
 - B. 27%
 - C. 15.5%

The following information relates to Q3-Q4:

Petra Munzi wants to know how value managers performed last year. Munzi estimates that the population cross-sectional standard deviation of value manager returns is 4 percent and assumes that the returns are independent across managers.

3. A Munzi wants to build a 95 percent confidence interval for the mean return. How large a random sample does Munzi need if she wants the 95 percent confidence interval to have a total width of 1 percent?
 - A. 250
 - B. 246
 - C. 252
4. B Munzi expects a cost of about \$10 to collect each observation. If she has a \$1,000 budget, will she be able to construct the confidence interval she wants?
 - A. 2,460
 - B. 2,500
 - C. 2,520
5. The best approach for creating a stratified random sample of a population involves:
 - A. drawing an equal number of simple random samples from each subpopulation.
 - B. selecting every kth member of the population until the desired sample size is reached.
 - C. drawing simple random samples from each subpopulation in sizes proportional to the relative size of each subpopulation.