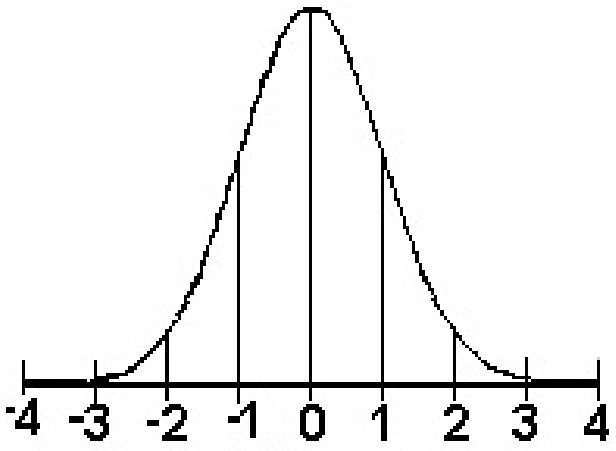
0.. ###.Firstname.Lastname.Q5 _____ M123 Q5 (c) sp25, A. Azzolino

00. This is an open book, open notes, calculator & internet use permitted test, BUT, no humans and no artificial intelligence are permitted. By my initials, I swear no one has helped me, I have not used artificial intelligence, & I have helped no one with this test. _____

000.My email address is : _____

0000. Print the test. Write work/answers on the test. Produce a digital copy. Rename it using ###.First.Last.Q5 etc. Attach it to email & send to yellow@mathnstuff.com or green@mathnstuff.com.
00000. Write your ###.First.Last.Q5.p__ on each page OR NOT CREDIT FOR PAGE!!

NOTE: Also attached you will find a Test 3 answer key and your graded test and the z-score, standard normal score, on it.



1. On the standard normal curve graph

1a. Mark your test z-score on the x-axis.

1b. Draw a vertical line from the point on the x-axis to the point on the curve directy above it. Shade the area under the curve to the left of the vertical line.

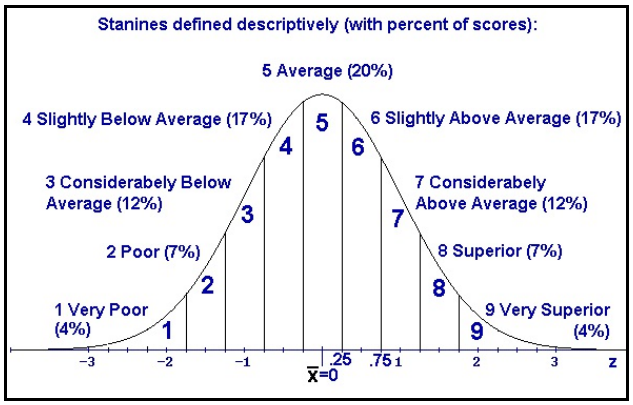
1c. Use your calculator or a spreadsheet to compute the area to the left of a vertical line ending at your z-score. The command you need is in the [DISTRIBUTION] menu which is above the [VARS] menu. The command is normal cumulative distribution function. Use the following numbers. Because the standard normal distribution has a mean of 0, a standard deviation of 1, and almost all scores all within 3 standard deviations of the mean, a lower bound of -5 would work fine.

Lower Bound: any number less than -5 Upper Bound: your test z-score

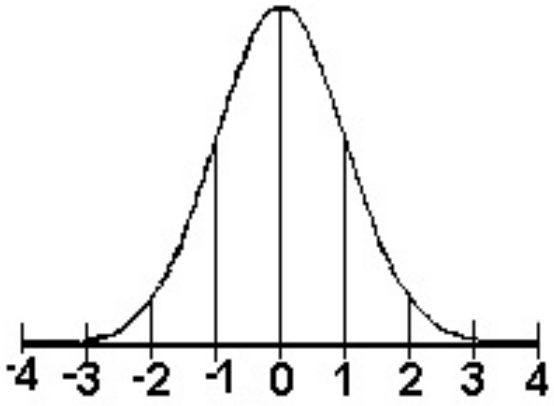
Mean: 0 Standard Distribution: 1

1d. Label the first graph by completing the following:

p(x<(your score)) = _____ where you fill in your score and the area to the left of your score.



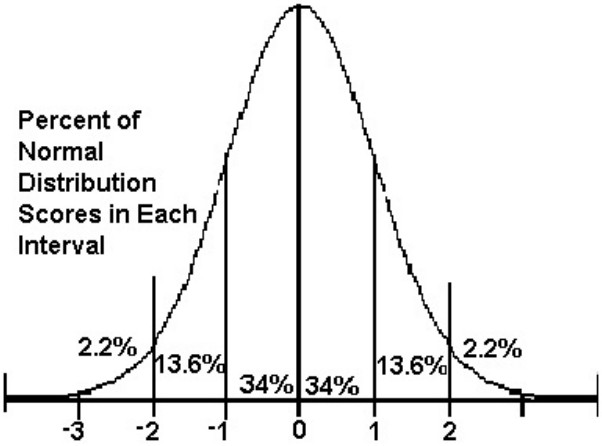
1e. Refer to the probability and the stanine curve to describe your score in words. as in, "I did better than ___ % of those taking the test. My score was "above average, etc."



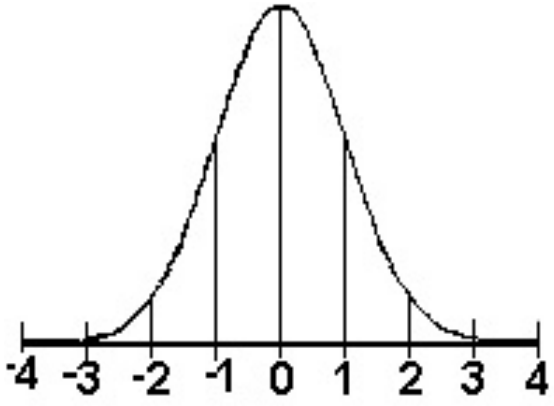
2a. On a standard normal probability distribution curve pick a value of x that's an integer like -3, -2, +1, and mark the value of a with the integer with a note like a = (your integer).

2b. Shade everything under the curve to the left of the x-value a and label the picture with

p(x < a) = ___ using the calculator to determine the cumulative probability, the shaded area under the curve, the cumulative probability.



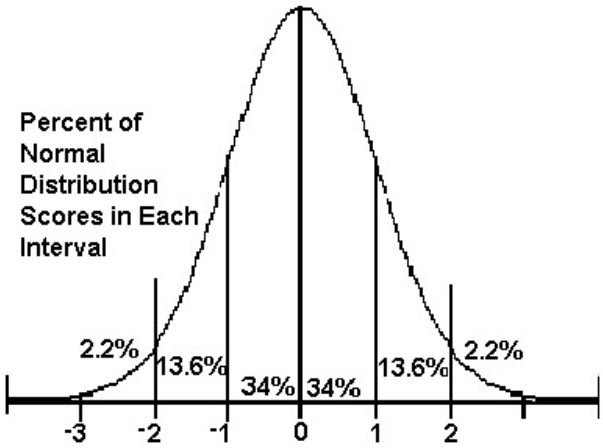
2c. Verify this probability with the numbers printed on the normal curve printed on every page of your web site.



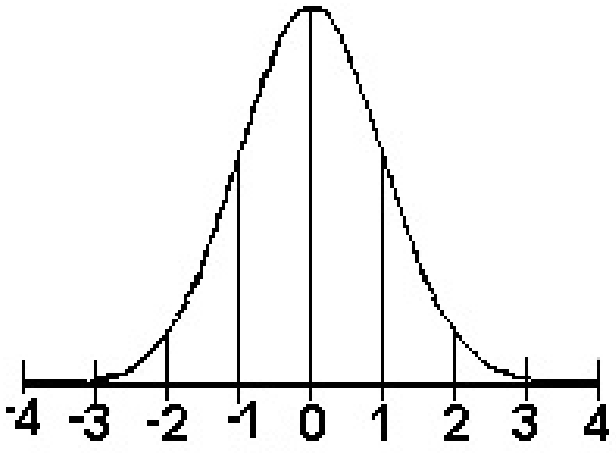
3a. On a standard normal probability distribution curve pick a value of x that's an integer like -3, -2, +1, (you could use the same a) and mark the value of a with the integer with a note like a = (your integer).

3b. Shade everything under the curve to the RIGHT of a label the picture with

p(x < a) = ___ using the calculator and simple arithmetic to determine the cumulative probability, the shaded area under the curve, the cumulative probability.



3c. Verify this probability with the numbers printed on the normal curve printed on every page of your web site.



4a. On a standard normal probability distribution curve pick TWO values of x that are integer like -3, -2, +1, and mark each value of a with the integer with a note like a = (your integer) and b = (your other number).

4b. Shade everything under the curve to the BETWEEN a and b and label the graph with

p(b < x < a) = ___ using the calculator and simple arithmetic to determine the cumulative probability, the shaded area under the curve, the cumulative probability.

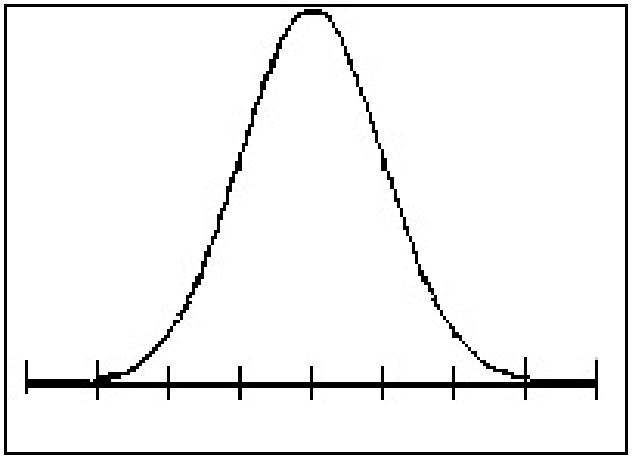
This time use:

Lower Bound: b Upper Bound: a Mean: 0 Standard Distribution: 1

4c. Verify this probability with the numbers printed on the normal curve printed on every page of your web site.

5a. Repeat question 4 using some other mean and standard deviation.

5b. Label the graph and verify your numbers.



6a. Use the mean and standard deviation of question 4 and the [DISTRIBUTION] [3: invNORM(command to compute the test score you would need to get your choice of test % grade . The command is:

3:invNorm(area[,mean,standard deviation])