**Normal Distribution**

**Using the Calculator**

To find the proportion of values within a range for a Normal distribution:

Home -> Add Calculator

Menu -> 5 Probability -> 5 Distributions -> 2 Normal CDF

* If it is a “less than” question, leave Lower Bound as is and put value in Upper Bound
* If it is a “greater than” question, put value in Lower Bound and a few 9’s in Upper Bound

Example:

The height of adult females is distributed N(64, 2.5).

* 1. What proportion of females are between 60 and 66 inches?
  2. What proportion of females are shorter than 68 inches?
  3. What proportion of females are taller than 60 inches?

**Using Table A backwards**

Human pregnancies have a distribution N(266, 16). How many days do the shortest 30% of pregnancies last?

1. Find the closest value in the body of the table to the decimal equivalent of the percentage
2. Determine the corresponding z-score
3. Use the z-score formula to find x

Example #1

1. How many days do the shortest 30% of pregnancies last?
2. How many days do the longest 12% of pregnancies last?

Example #2

The height of adult males is N(69, 3).

1. How tall is a male to be in the shortest 60%?
2. What are the range of heights to be in the middle 50%?