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AP Statistics – Ms. Klimczuk

**Using Technology to Find Normal Percentages**

Your calculator knows the normal model. Follow these steps to find normal percentages.

1. Go to 2nd DIST.
2. Choose normalcdf. This stands for normal cumulative density function. You use this to find the proportion of the area under the curve between two z-scores.
3. Specify which z-scores by plugging in like this: normalcdf(left z-score, right z-score)
4. Make friends with this function!!! You will use it often.

Examples:

1. Environmental Protection Agency (EPA) fuel economy estimates for automobile models tested recently predicted a mean of 24.8 mpg and a standard deviation of 6.2 mpg for highway driving. Assume that a normal model can be applied.
2. Draw the Normal model for auto fuel economy. Clearly label it with everything!
3. In what interval would you expect the central 68% of autos to be found?
4. What percent of autos should get no more than 31 mpg?
5. What percent of cars should get between 31 and 37.2 mpg?
6. Describe the gas mileage of the worst 2.5% of all cars.
7. The winning scores of all college men’s basketball games for the 2011-2012 season were approximately normally distributed with a mean of 77.5 points and a standard deviation of 12.5 points.
8. Draw the Normal model for winning scores. Clearly label it with everything!
9. What interval of winning scores would be the central 95% of all winning scores of the 2011-2012 season?
10. What percent of the winning scores should be less than 65 points?
11. What percent of the winning scores should be between 65 and 102 points?
12. What percent of the winning scores should be over 102 points?