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AP Statistics – Ms. Klimczuk

**Drawing the Normal Model**

1. Start with a runway.
2. The plane takes off from Hartford and lands in Boston.
3. Think about how a plane ride should look.
4. Split down the middle.
5. Space everything out correctly.
6. Split each half into 3 parts.
7. Now let’s fill out the whole Normal Model using what we know.
8. Remember: The area underneath any probability curve is 1 (100%).
9. Fill in the percentiles and the z-scores underneath.
10. Put your data values underneath your z-scores when you know what they are.
11. Normal Models go to infinity.

**Complete the following exercises using your normal model and the given scenario.**

In a hotdog eating contest, the average amount of hotdogs eaten was 28 with a standard deviation of 4.

1. Draw the Normal Model with ALL the information.
2. Now answer the following questions.
3. What percent of participants ate more than 36 hotdogs?
4. What percent of participants ate between 24 and 28 hotdogs?
5. What percent of participants ate less than 24 hotdogs?
6. How many hotdogs correspond to the 84th percentile?
7. How many hotdogs correspond to the 16th percentile?
8. What percent of participants ate between 28 and 36 hotdogs?
9. Estimate the number of hotdogs that are in the top 10%.
10. Estimate the percentile for 26 hotdogs.
11. What would be the z-score for 26 hotdogs? 34 hotdogs? 23 hotdogs?