Nov 17 Worksheet

1. Draw and label a bell curve using the empirical rule

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2. The scores on a national exam are normally distributed with a mean (μ) of 500 and a standard deviation (σ) of 100. Approximately what percentage of students scored between 300 and 700?

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3. A machine fills bags of flour with a mean weight of 16.0 ounces. The standard deviation is 0.2 ounces. What range of weights includes the middle 68% of the bags?

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4. The lifespan of a certain type of battery is normally distributed with a mean of 50 hours and a standard deviation of 4 hours. What percentage of batteries are expected to last longer than 58 hours?

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5. How do we calculate z-score?

6. A final exam score distribution has a mean of 70 and a standard deviation of 8. If a student scores an 86, what is their z-score?

7. An incoming freshman takes placement exams in Math and English. On which test did the student perform better relative to their peers?

Subject	**Score (x)**	**Mean (μ)**	**Standard Deviation (σ)**
Math	86	68	12
English	82	72	8

8. The average weight of newborn babies in a certain hospital is 7.5 pounds with a standard deviation of 1.1 pounds. A baby is born weighing 6.0 pounds. What is the baby's z-score?