Z-Score Review

Standard Normal

★**I can calculate the standardized score (z- score) of a value**★

★**I can calculate the value of the event based on the standardized score**★

1. IQ scores have a mean of 100 and a standard deviation of 16. Albert Einstein reportedly had an IQ of 160.
2. Convert Einstein’s IQ score to a z score.
3. If we consider “usual” IQ scores to be those that convert to z scores between -2 and 2, is Einstein’s IQ usual or unusual?
4. Three students take equivalent stress tests. Which is the highest relative score (i.e. Who has the largest z score)?

A score of 144 on a test with a mean of 128 and a standard deviation of 34.

A score of 90 on a test with a mean of 86 and a standard deviation of 18.

A score of 18 on a test with a mean of 15 and a standard deviation of 5.

1. Scores on the ACT college entrance exam follow a Normal distribution with a mean 18 and a standard deviation 6. Wayne’s standardized score (z-score) on the ACT was -0.7. What was Wayne’s actual ACT score?

★**I can calculate a value of the event based on the probability**★

1. The distribution of heights of adult American men is approximately normal with mean 69 inches and standard deviation 2.5 inches. If Erick is in the 85th percentile for adult men, how tall is he?