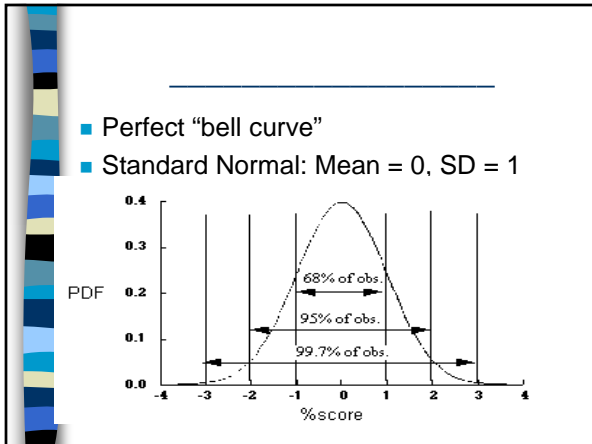



Z Scores


- Transforming raw data into standardized scores (so the Z-scores have a standard normal distribution)
- Formula:
$$\frac{\text{Raw score (X)} - \text{Mean score (M)}}{\text{Standard Deviation (s)}}$$






of Z-Scores

- The sign (+ or -) tells whether the score is located above (+) or below (-) the mean
- The number tells the distance between the score and the mean in terms of standard deviations



Why Use _____?

- Z-scores tell us exactly where the original scores are located in the distribution
- Z-scores from various different measures can be compared directly
 - e.g., Measures of intelligence standardized to compute an IQ score (mean = 100, sd = 10)
 - Intelligence measure #1 = 15
 - Intelligence measure #2 = 76
 - Transformed IQ score on #1 = 110
 - Transformed IQ score on #2 = 105



Using Z-Scores to Determine _____

- If you want to know a person's raw score, given the Z-score...
 - Formula: $Z\text{-score} * SD + \text{Mean}$
- The Mean given the Z-score...
 - Formula: $\text{Raw score} - (Z\text{-score} * SD)$
- The SD given the Z-score...
 - Formula: $(\text{Raw score} - \text{Mean}) \div Z\text{-score}$
