

HIGH SCHOOL MATHEMATICS CHECKLIST
Data Analysis, Statistics, and Probability, Goal 10
Illinois Learning Standards A-C
Assessment Frameworks

PSAE test questions are derived from this list.

GRAPHING AND CHARTING—CONSTRUCTION AND INTERPRETATION

- _____ Given a graph or graphs, judge whether information is represented effectively and appropriately (e.g., axes are labeled correctly, written description conforms to the graphic presentation).
- _____ Use Venn diagrams involving two or three overlapping circles. **AG**
- _____ Match a data set to a graph and vice versa. **AG**
- _____ Read, interpret, predict, and use information from a variety of graphs, charts, and tables (e.g., bar graph, line graph, circle graph, stem-and-leaf plot, scatter plot).
HO, FCS, BU, AG
- _____ Make a reasonable approximation of the line of best fit from a set of data or a scatter plot.

STATISTICS

- _____ Given a scatter plot, estimate the correlation coefficient.
- _____ Find an unknown value in a dataset given information about descriptive statistics.
- _____ Analyze bivariate data to estimate trends or interpolate.
- _____ For a given data set and an appropriate representation, interpret the distribution and calculate summary statistics (e.g., use box-and-whisker plots to findquartiles).
- _____ Know the binomial coefficients in their combinatorial or "counting" meaning (e.g., How many ways can a committee of three be chosen from a club having six members?)
- _____ Calculate, interpret, and use measures of central tendency and dispersion.
- _____ Determine the effect of outliers on the measures of central tendency and dispersion.
- _____ Compare two or more data sets on measures of central tendency and dispersion.
AG

PROBABILITY

- _____ Calculate simple conditional probabilities. **AG**
- _____ Express probabilities as odds. **AG**
- _____ Compute the probability of an event composed of repeated trials, with or without replacement (e.g., the probability of drawing three hearts in a row from a deck of cards, with or without replacement after each draw). **AG**
- _____ Compute probabilities for compound events. **AG**
- _____ Understand the difference between independent and dependent events. **AG**
- _____ Identify the probability of either of two disjoint events occurring as the sum of the two individual probabilities.
- _____ Use data to estimate the probability of future events (e.g., batting averages, number of accidents per mile driven). **AG**