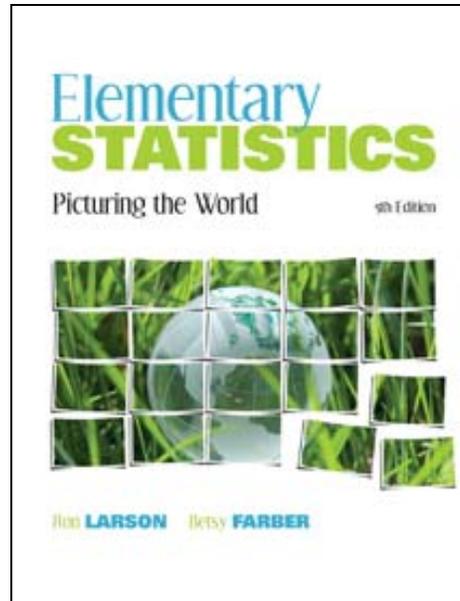


A Correlation of
Elementary Statistics
Picturing the World
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To the

**Florida State Standards for
Probability & Statistics with Applications
Honors – 1210300**

CORRELATION
 FLORIDA DEPARTMENT OF EDUCATION
 INSTRUCTIONAL MATERIALS CORRELATION
 COURSE STANDARDS/BENCHMARKS

SUBJECT:Mathematics
GRADE LEVEL:9-12
COURSE TITLE:Probability & Statistics with Applications Honors
COURSE CODE:1210300
SUBMISSION TITLE:Elementary Statistics: Picturing the World
BID ID:2250
PUBLISHER:Pearson Education, Inc. publishing as Prentice Hall
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BENCHMARK CODE	BENCHMARK	LESSONS WHERE BENCHMARK IS DIRECTLY ADDRESSED IN-DEPTH IN MAJOR TOOL (Include page numbers of lesson, a link to lesson, or other identifier for easy lookup by reviewers.)
LACC.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.	SE/TE: 26, 34-35, 121-123, 187, 233, 299, 351-353, 423-425, 477-479, 537, 595, 647
LACC.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.	SE/TE: 23, 47, 72, 107, 138, 197, 244, 262, 311, 341, 381, 393, 434, 495, 557
LACC.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.	SE/TE: 38-46, 53-59, 192-195, 203-204, 236-243, 268-271, 318-319, 362-365, 378-380, 399-400, 433, 444-445, 463-464, 501-503, 543

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LACC.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented	SE/TE: 26, 79, 98, 144, 166, 216, 280, 326, 336, 397, 403, 511 a. SE/TE: 15, 99, 167, 217, 265, 317, 386, 441, 512, 564, 618 b. SE/TE: 32, 120, 186, 232, 298, 350, 422, 476, 536, 594, 646 c. SE/TE: 27, 113, 179, 225, 291, 344, 413, 469, 529, 587, 639 d. SE/TE: 26, 79, 98, 144, 166, 216, 280, 326, 336, 397, 403, 511
LACC.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.	SE/TE: 32, 120, 186, 232, 298, 350, 422, 476, 536, 594, 646
LACC.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.	SE/TE: 13, 23, 72, 107, 138, 178, 197, 274, 332, 367, 557

CORRELATION
 FLORIDA DEPARTMENT OF EDUCATION
 INSTRUCTIONAL MATERIALS CORRELATION
 COURSE STANDARDS/BENCHMARKS

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LACC.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.	SE/TE: 32, 120, 186, 232, 298, 350, 422, 476, 536, 594, 646
LACC.910.WHST.1.1:	<p>Write arguments focused on <i>discipline-specific content</i>.</p> <ul style="list-style-type: none"> a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented. 	<p>SE/TE: 25, 78, 111-112, 143, 165, 178, 224, 290, 335, 412, 460, 508-510, 550, 573, 608</p> <ul style="list-style-type: none"> a. SE/TE: 25, 78, 111-112, 143, 165, 178, 224, 290, 335, 412, 460, 508-510, 550, 573, 608 b. SE/TE: 27, 113, 179, 225, 291, 344, 413, 469, 529, 587, 639 c. SE/TE: 30, 52, 96-97, 143, 178, 224, 248, 256, 278-279, 301, 316, 369-370, 420, 474, 563 d. SE/TE: 25, 78, 111-112, 143, 165, 178, 224, 290, 335, 412, 460, 508-510, 550, 573, 608 e. SE/TE: 26, 79, 98, 144, 166, 216, 280, 326, 336, 397, 403, 511

**CORRELATION
FLORIDA DEPARTMENT OF EDUCATION
INSTRUCTIONAL MATERIALS CORRELATION
COURSE STANDARDS/BENCHMARKS**

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LACC.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	SE/TE: 15, 27, 99, 167, 217, 265, 291, 317, 386, 413, 441, 512, 564, 618, 639
LACC.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.	SE/TE: 2-5, 9-11, 17, 121, 178, 193, 232, 265, 350, 413, 422, 476, 535, 594, 646
MACC.912.S-CP.1.1:	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (“or,” “and,” “not”).	SE/TE: 128-143, 145-155, 156-165, 168-178, 202-215
MACC.912.S-CP.1.2:	Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.	SE/TE: 146-155, 160, 202-203
MACC.912.S-CP.1.3:	Understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$, and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.	SE/TE: 145-155

CORRELATION
 FLORIDA DEPARTMENT OF EDUCATION
 INSTRUCTIONAL MATERIALS CORRELATION
 COURSE STANDARDS/BENCHMARKS

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MACC.912.S-CP.1.4:	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. <i>For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.</i>	SE/TE: 145, 151-153, 159, 164-165
MACC.912.S-CP.1.5:	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. <i>For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.</i>	SE/TE: 145-155, 202-203
MACC.912.S-CP.2.6:	Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.	SE/TE: 145-155
MACC.912.S-CP.2.7:	Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model.	SE/TE: 156-165
MACC.912.S-CP.2.8:	Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B A) = P(B)P(A B)$, and interpret the answer in terms of the model.	SE/TE: 147-155

CORRELATION
 FLORIDA DEPARTMENT OF EDUCATION
 INSTRUCTIONAL MATERIALS CORRELATION
 COURSE STANDARDS/BENCHMARKS

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MACC.912.S-CP.2.9:	Use permutations and combinations to compute probabilities of compound events and solve problems.	SE/TE: 168-178, 204-205, 207-209, 212-215, 221, 224
MACC.912.S-IC.1.1:	Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	SE/TE: 2-8, 9-14, 16-25, 192-194, 210, 266-279, 281-290, 304-316, 318-325, 327-335, 371-385, 387-396, 398-402, 451-460, 461-468
MACC.912.S-IC.1.2:	Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. <i>For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?</i>	SE/TE: 246-247, 267, 269, 273, 277-278, 281-290, 356-370, 371-385, 387-396, 398-402, 404-412, 428-440, 442-450, 451-460, 461-468
MACC.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	SE/TE: 16-25, 202-204, 211-215, 267-279, 310, 318-325, 540-550, 577-578, 602-608, 631-638
MACC.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.	SE/TE: 267, 271-279, 306-316, 320-325, 327-335, 339-340, 602-608, 613-614, 621-630, 631-638
MACC.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.	SE/TE: 202-204, 211-215, 540-550, 577-578, 611

**CORRELATION
FLORIDA DEPARTMENT OF EDUCATION
INSTRUCTIONAL MATERIALS CORRELATION
COURSE STANDARDS/BENCHMARKS**

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MACC.912.S-IC.2.6:	Evaluate reports based on data.	SE/TE: 15, 27, 99, 167, 217, 265, 291, 317, 386, 413, 441, 512, 564, 618, 639
MACC.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots).	SE/TE: 53-55, 71-72, 74-77, 103, 107-109, 267, 276, 281, 283, 290, 407
MACC.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	SE/TE: 71-72, 87, 430-440, 442-450, 451-460, 461-468, 565-573, 574-586, 602-603, 609-617
MACC.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	SE/TE: 71-72, 87, 246-247, 267-271, 274-279, 281-290, 356, 365, 404-412, 430-440, 442-450, 451-460, 461-468
MACC.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.	SE/TE: 86, 236-243, 244-248, 249-251, 252-256, 257-264, 269-279, 283-290, 356, 365, 374-375, 377-382, 387-396, 399-402, 404-412
MACC.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	SE/TE: 145, 151-153, 159, 551-552, 554-562

CORRELATION
 FLORIDA DEPARTMENT OF EDUCATION
 INSTRUCTIONAL MATERIALS CORRELATION
 COURSE STANDARDS/BENCHMARKS

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MACC.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. <ul style="list-style-type: none"> a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. <i>Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.</i> b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. 	SE/TE: 58, 483, 484-487, 495-499, 501-503, 505-510, 511, 512, 513-518, 519 <ul style="list-style-type: none"> a. SE/TE: 483, 501-503, 505-510, 511, 512, 513-518, 519 b. SE/TE: 58, 483, 484-487, 495-499, 501-503, 505-510, 511, 512, 513-518, 519 c. SE/TE: 483, 501-503, 505-510, 511, 512, 516, 518, 519
MACC.912.S-ID.3.7:	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	SE/TE: 501-504, 505-510, 523
MACC.912.S-ID.3.8:	Compute (using technology) and interpret the correlation coefficient of a linear fit.	SE/TE: 487-493, 503-504, 508
MACC.912.S-ID.3.9:	Distinguish between correlation and causation.	SE/TE: 494-495, 499
MACC.912.S-MD.1.1:	Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.	SE/TE: 190-201, 209-215, 218-224, 236-248, 249-256, 257-258, 260-264, 266-279, 281-290, 305-306, 318-325, 543-550, 565-573, 601

CORRELATION
 FLORIDA DEPARTMENT OF EDUCATION
 INSTRUCTIONAL MATERIALS CORRELATION
 COURSE STANDARDS/BENCHMARKS

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MACC.912.S-MD.1.2:	Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.	SE/TE: 196-197, 199
MACC.912.S-MD.1.3:	Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. <i>For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.</i>	SE/TE: 196-197, 199-200, 205, 267
MACC.912.S-MD.1.4:	Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. <i>For example, find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?</i>	SE/TE: 192-194, 197-201, 209-211, 213-215, 218-224, 249-255, 261, 263-264, 269-279, 282, 284-289, 390-396, 399-402, 407-412

CORRELATION
 FLORIDA DEPARTMENT OF EDUCATION
 INSTRUCTIONAL MATERIALS CORRELATION
 COURSE STANDARDS/BENCHMARKS

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MACC.912.S-MD.2.5:	<p>Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.</p> <p>a. Find the expected payoff for a game of chance. <i>For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.</i></p> <p>b. Evaluate and compare strategies on the basis of expected values. <i>For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.</i></p>	<p>SE/TE: 127, 140, 143, 157-158, 173, 177, 196-197, 199</p> <p>a. SE/TE: 127, 140, 143, 157-158, 173, 177, 196-197, 199</p> <p>b. SE/TE: 127, 143, 196, 199</p>
MACC.912.S-MD.2.6:	Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).	SE/TE: 127, 143, 157-158, 177, 196-197, 199, 611, 631-638
MACC.912.S-MD.2.7:	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).	SE/TE: 127, 196-197, 199, 364, 390-396, 399-402, 407-412, 432-440, 444-450, 453-460, 463-468, 601, 610-617

CORRELATION
 FLORIDA DEPARTMENT OF EDUCATION
 INSTRUCTIONAL MATERIALS CORRELATION
 COURSE STANDARDS/BENCHMARKS

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MACC.K12.MP.1.1:	<p>Make sense of problems and persevere in solving them.</p> <p>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.</p>	<p>This standard is met throughout the text. See the following: SE/TE: 26, 34-35, 121-123, 187, 233, 299, 351-353, 423-425, 477-479, 537, 595, 647</p>

CORRELATION
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 INSTRUCTIONAL MATERIALS CORRELATION
 COURSE STANDARDS/BENCHMARKS

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MACC.K12.MP.2.1:	<p>Reason abstractly and quantitatively.</p> <p>Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.</p>	<p>This standard is met throughout the text. See the following: SE/TE: 32, 120, 186, 232, 298, 350, 422, 476, 536, 594, 646</p>

CORRELATION
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 INSTRUCTIONAL MATERIALS CORRELATION
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MACC.K12.MP.3.1:	<p>Construct viable arguments and critique the reasoning of others.</p> <p>Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.</p>	<p>This standard is met throughout the text. See the following: SE/TE: 13, 23, 72, 107, 138, 178, 197, 274, 332, 367, 557</p>

CORRELATION
 FLORIDA DEPARTMENT OF EDUCATION
 INSTRUCTIONAL MATERIALS CORRELATION
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MACC.K12.MP.4.1:	<p>Model with mathematics.</p> <p>Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.</p>	<p>This standard is met throughout the text. See the following: SE/TE: 199-200, 205, 267, 277-278, 281-290, 356-370, 371-385, 387-396, 398-402, 404-412, 428-440, 442-450, 451-460, 461-468, 501-504, 505-510</p>

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 INSTRUCTIONAL MATERIALS CORRELATION
 COURSE STANDARDS/BENCHMARKS

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MACC.K12.MP.5.1:	<p>Use appropriate tools strategically.</p> <p>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.</p>	<p>This standard is met throughout the text. See the following: SE/TE: 26, 34-35, 121-123, 187, 233, 299, 351-353, 423-425, 477-479, 537, 595, 647</p>

CORRELATION
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 INSTRUCTIONAL MATERIALS CORRELATION
 COURSE STANDARDS/BENCHMARKS

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MACC.K12.MP.6.1:	<p>Attend to precision.</p> <p>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.</p>	<p>This standard is met throughout the text. See the following: SE/TE: 127, 140, 143, 145-155, 157-158, 168-178, 196-197, 199, 204-205, 207-209, 212-215, 221, 224</p>

CORRELATION
 FLORIDA DEPARTMENT OF EDUCATION
 INSTRUCTIONAL MATERIALS CORRELATION
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MACC.K12.MP.7.1:	<p>Look for and make use of structure.</p> <p>Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.</p>	<p>This standard is met throughout the text. See the following: SE/TE: 2-8, 9-14, 16-25, 192-194, 210, 266-279, 281-290, 304-316, 318-325, 327-335, 371-385, 387-396, 398-402, 451-460, 461-468</p>

CORRELATION
 FLORIDA DEPARTMENT OF EDUCATION
 INSTRUCTIONAL MATERIALS CORRELATION
 COURSE STANDARDS/BENCHMARKS

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MACC.K12.MP.8.1:	<p>Look for and express regularity in repeated reasoning.</p> <p>Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.</p>	<p>This standard is met throughout the text. See the following: SE/TE: 16-25, 121-123, 192-194, 210, 266-279, 281-290, 304-316, 318-325, 327-335, 371-385, 387-396, 398-402, 451-460, 461-468, 647</p>