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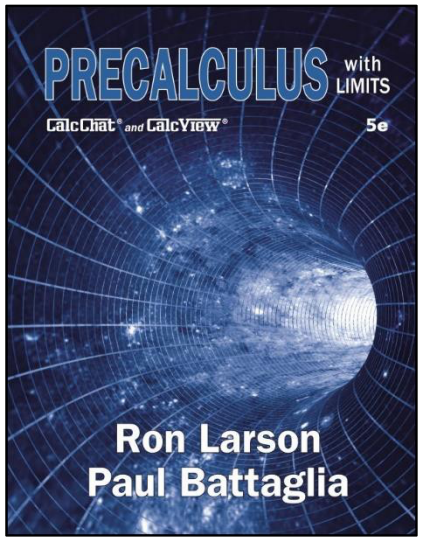

Correlation of

***Precalculus with Limits, with CalcChat® and CalcView®*, 5/E,**
by Ron Larson/ Paul Battaglia, © 2022,
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to

Indiana
Academic Standards for Mathematics
High School
Precalculus: Algebra

Correlation to the Indiana Academic Standards for Mathematics, High School: Precalculus: Algebra
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Academic Standards for Mathematics	SE Where Addressed	TE Where Addressed
PROCESS STANDARDS FOR MATHEMATICS		
PS.1: Make sense of problems and persevere in solving them.	This mathematical practice standard is addressed throughout. For example, see: Section 1.8 (pp. 76-83), Section 2.5 (pp. 152-165), Section 3.4 (pp. 226-235), Section 4.3 (pp. 277-287), Section 5.3 (pp. 362-373), Section 6.1 (pp. 400-408), Section 7.4 (pp. 502-509), Section 8.4 (pp. 577-584), Section 9.3 (pp. 629-637), Section 10.3 (pp. 708-716), Section 12.3 (pp. 839-848)	This mathematical practice standard is addressed throughout. For example, see: Section 1.8 (pp. 76-83), Section 2.5 (pp. 152-165), Section 3.4 (pp. 226-235), Section 4.3 (pp. 277-287), Section 5.3 (pp. 362-373), Section 6.1 (pp. 400-408), Section 7.4 (pp. 502-509), Section 8.4 (pp. 577-584), Section 9.3 (pp. 629-637), Section 10.3 (pp. 708-716), Section 12.3 (pp. 839-848)
PS.2: Reason abstractly and quantitatively.	This mathematical practice standard is addressed throughout. For example, see: Section 1.4 (pp. 35-48), Section 1.7 (pp. 67-75), Section 1.10 (pp. 93-103), Section 2.2 (pp. 123-135), Section 2.4 (pp. 145-151), Section 3.2 (pp. 209-218), Section 4.1 (pp. 260-269), Section 5.2 (pp. 355-361), Section 6.3 (pp. 416-428), Section 7.3 (pp. 490-501), Section 7.5 (pp. 510-519), Section 8.2 (pp. 553-567), Section 9.2 (pp. 620-628), Section 10.1 (pp. 692-698), Section 10.8 (pp. 751-758), Section 11.2 (pp. 785-791), Section 12.1 (pp. 818-828)	This mathematical practice standard is addressed throughout. For example, see: Section 1.4 (pp. 35-48), Section 1.7 (pp. 67-75), Section 1.10 (pp. 93-103), Section 2.2 (pp. 123-135), Section 2.4 (pp. 145-151), Section 3.2 (pp. 209-218), Section 4.1 (pp. 260-269), Section 5.2 (pp. 355-361), Section 6.3 (pp. 416-428), Section 7.3 (pp. 490-501), Section 7.5 (pp. 510-519), Section 8.2 (pp. 553-567), Section 9.2 (pp. 620-628), Section 10.1 (pp. 692-698), Section 10.8 (pp. 751-758), Section 11.2 (pp. 785-791), Section 12.1 (pp. 818-828)
PS.3: Construct viable arguments and critique the reasoning of others.	This mathematical practice standard is addressed throughout. For example, see: Section 1.5 (pp. 49-59), Section 3.3 (pp. 219-225), Section 4.7 (pp. 318-327), Section 5.2 (pp. 355-361), Section 5.5 (pp. 381-389), Section 8.4 (pp. 577-584), Section 9.4 (pp. 638-647), Section 10.9 (pp. 759-765), Section 12.1 (pp. 818-828), Section 13.2 (pp. 885-896)	This mathematical practice standard is addressed throughout. For example, see: Section 1.5 (pp. 49-59), Section 3.3 (pp. 219-225), Section 4.7 (pp. 318-327), Section 5.2 (pp. 355-361), Section 5.5 (pp. 381-389), Section 8.4 (pp. 577-584), Section 9.4 (pp. 638-647), Section 10.9 (pp. 759-765), Section 12.1 (pp. 818-828), Section 13.2 (pp. 885-896)

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PS.4: Model with mathematics.	This mathematical practice standard is addressed throughout. For example, see: Section 1.3 (pp. 22-34), Section 2.1 (pp. 114-122), Section 2.6 (pp. 166-177), Section 3.1 (pp. 198-208), Section 4.5 (pp. 297-307), Section 4.8 (pp.328-337), Section 6.2 (pp. 409-415), Section 6.4 (pp. 429-437), Section 7.1 (pp. 468-477), Section 7.6 (pp. 520-528), Section 8.5 (pp. 585-597), Section 9.7 (pp. 666-677), Section 10.2 (pp. 699-707), Section 11.3 (pp. 792-798)	This mathematical practice standard is addressed throughout. For example, see: Section 1.3 (pp. 22-34), Section 2.1 (pp. 114-122), Section 2.6 (pp. 166-177), Section 3.1 (pp. 198-208), Section 4.5 (pp. 297-307), Section 4.8 (pp.328-337), Section 6.2 (pp. 409-415), Section 6.4 (pp. 429-437), Section 7.1 (pp. 468-477), Section 7.6 (pp. 520-528), Section 8.5 (pp. 585-597), Section 9.7 (pp. 666-677), Section 10.2 (pp. 699-707), Section 11.3 (pp. 792-798)
PS.5: Use appropriate tools strategically.	This mathematical practice standard is addressed throughout. For example, see: Section 1.1 (pp. 2-10), Section 1.5 (pp. 49-59), Section 2.7 (pp. 178-187), Section 3.5 (pp. 236-247), Section 4.1 (pp. 260-269), Section 5.4 (pp. 374-380), Section 6.1 (pp. 400-408), Section 6.3 (pp. 416-428), Section 7.2 (pp. 478-489), Section 8.1 (pp. 540-552), Section 9.5 (pp. 648-655), Section 10.6 (pp. 735-744), Section 10.7 (pp. 745-750), Section 11.1 (pp. 778-784), Section 12.2 (pp. 829-838)	This mathematical practice standard is addressed throughout. For example, see: Section 1.1 (pp. 2-10), Section 1.5 (pp. 49-59), Section 2.7 (pp. 178-187), Section 3.5 (pp. 236-247), Section 4.1 (pp. 260-269), Section 5.4 (pp. 374-380), Section 6.1 (pp. 400-408), Section 6.3 (pp. 416-428), Section 7.2 (pp. 478-489), Section 8.1 (pp. 540-552), Section 9.5 (pp. 648-655), Section 10.6 (pp. 735-744), Section 10.7 (pp. 745-750), Section 11.1 (pp. 778-784), Section 12.2 (pp. 829-838)
PS.6: Attend to precision.	This mathematical practice standard is addressed throughout. For example, see: For example: Section 1.1 (pp. 2-10), Section 1.9 (pp. 84-92), Section 2.3 (pp. 136-144), Section 2.7 (pp. 178-187), Section 4.4 (pp. 288-296), Section 6.6 (pp. 445-453), Section 7.4 (pp. 502-509), Section 8.3 (pp. 568-576), Section 9.6 (pp. 656-665), Section 10.5 (pp. 727-734), Section 11.4 (pp. 799-807), Section 13.3 (pp. 897-903)	This mathematical practice standard is addressed throughout. For example, see: For example: Section 1.1 (pp. 2-10), Section 1.9 (pp. 84-92), Section 2.3 (pp. 136-144), Section 2.7 (pp. 178-187), Section 4.4 (pp. 288-296), Section 6.6 (pp. 445-453), Section 7.4 (pp. 502-509), Section 8.3 (pp. 568-576), Section 9.6 (pp. 656-665), Section 10.5 (pp. 727-734), Section 11.4 (pp. 799-807), Section 13.3 (pp. 897-903)
PS.7: Look for and make use of structure.	This mathematical practice standard is addressed throughout. For example, see: Section 1.2 (pp. 11-21), Section 1.6 (pp. 60-66), Section 2.5 (pp. 152-165), Section 3.3 (pp. 219-225), Section 4.2 (pp. 270-276), Section 4.6 (pp. 308-317), Section 5.1 (pp. 348-354), Section 6.5 (pp. 438-444), Section 7.2 (pp. 478-489), Section 8.1 (pp. 540-552), Section 9.1 (pp. 610-619), Section	This mathematical practice standard is addressed throughout. For example, see: Section 1.2 (pp. 11-21), Section 1.6 (pp. 60-66), Section 2.5 (pp. 152-165), Section 3.3 (pp. 219-225), Section 4.2 (pp. 270-276), Section 4.6 (pp. 308-317), Section 5.1 (pp. 348-354), Section 6.5 (pp. 438-444), Section 7.2 (pp. 478-489), Section 8.1 (pp. 540-552), Section 9.1 (pp. 610-619), Section

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Academic Standards for Mathematics	SE Where Addressed	TE Where Addressed
	9.4 (pp. 638-647), Section 10.4 (pp. 717-726), Section 10.7 (pp. 745-750), Section 11.1 (pp. 778-784), Section 12.5 (pp. 858-865)	9.4 (pp. 638-647), Section 10.4 (pp. 717-726), Section 10.7 (pp. 745-750), Section 11.1 (pp. 778-784), Section 12.5 (pp. 858-865)
PS.8: Look for and express regularity in repeated reasoning.	This mathematical practice standard is addressed throughout. For example, see: Section 1.6 (pp. 60-66), Section 2.2 (pp. 123-135), Section 4.2 (pp. 270-276), Section 4.4 (pp. 288-296), Section 5.5 (pp. 381-389), Section 6.6 (pp. 445-453), Section 7.3 (pp. 490-501), Section 9.2 (pp. 620-628), Section 9.5 (pp. 648-655), Section 10.5 (pp. 727-734), Section 10.9 (pp. 759-765), Section 12.2 (pp. 829-838)	This mathematical practice standard is addressed throughout. For example, see: Section 1.6 (pp. 60-66), Section 2.2 (pp. 123-135), Section 4.2 (pp. 270-276), Section 4.4 (pp. 288-296), Section 5.5 (pp. 381-389), Section 6.6 (pp. 445-453), Section 7.3 (pp. 490-501), Section 9.2 (pp. 620-628), Section 9.5 (pp. 648-655), Section 10.5 (pp. 727-734), Section 10.9 (pp. 759-765), Section 12.2 (pp. 829-838)
Functions		
PC.F.1 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.	Section 1.2 (pp. 11-21), Section 1.3 (pp. 22-34), Section 1.4 (pp. 35-48), Section 1.5 (pp. 49-59), Section 1.6 (pp. 60-66), Section 1.7 (pp. 67-75), Section 2.1 (pp. 114-123), Section 2.2 (pp. 124-135), Section 2.6 (pp. 166-177), Section 3.1 (pp. 198-208), Section 3.2 (pp. 209-218), Section 3.5 (pp. 236-247)	Section 1.2 (pp. 11-21), Section 1.3 (pp. 22-34), Section 1.4 (pp. 35-48), Section 1.5 (pp. 49-59), Section 1.6 (pp. 60-66), Section 1.7 (pp. 67-75), Section 2.1 (pp. 114-123), Section 2.2 (pp. 124-135), Section 2.6 (pp. 166-177), Section 3.1 (pp. 198-208), Section 3.2 (pp. 209-218), Section 3.5 (pp. 236-247)
PC.F.2 Find linear models by using median fit and least squares regression methods, making use of technology. Decide which among several linear models gives a better fit. Interpret the slope and intercept in terms of the original context.	Section 1.10 (pp. 93-94, 100-103), Section 13.3 (pp. 897-903)	Section 1.10 (pp. 93-94, 100-103), Section 13.3 (pp. 897-903)
PC.F.3 Compose functions and find the domain of composite functions.	Section 1.8 (pp. 76-83)	Section 1.8 (pp. 76-83)

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Academic Standards for Mathematics	SE Where Addressed	TE Where Addressed
PC.F.4 Determine if a graph or table has an inverse, and justify if the inverse is a function, relation, or neither. Identify the values of an inverse function/relation from a graph or a table, given that the function has an inverse. Derive the inverse equation from the values of the inverse.	Section 1.9 (pp. 84-92)	Section 1.9 (pp. 84-92)
PC.F.5 Produce an invertible function from a non-invertible function by restricting the domain.	Section 1.9 (pp. 88-89, 92 #87), Section 4.7 (pp. 318-327)	Section 1.9 (pp. 88-89, 92 #87), Section 4.7 (pp. 318-327)
PC.F.6 Recognize even and odd functions from their graphs and algebraic expressions.	Section 1.5 (pp. 55, 58 #71-82), Section 4.2 (p. 273)	Section 1.5 (pp. 55, 58 #71-82), Section 4.2 (p. 273)
Quadratic, Polynomial and Rational Equations and Functions		
PC.QPR.1 Use the method of completing the square to transform any quadratic equation into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.	Section 10.2 (pp. 699-707), Section 10.3 (pp. 708-716), Section 10.5 (pp. 727-734), Section 11.1 (pp. 778-784), Appendix A (pp. A48, A50)	Section 10.2 (pp. 699-707), Section 10.3 (pp. 708-716), Section 10.5 (pp. 727-734), Section 11.1 (pp. 778-784), Appendix A (pp. A48, A50)
PC.QPR.2 Understand and use addition, subtraction, multiplication, and conjugation of complex numbers.	Section 2.4 (pp. 145-151)	Section 2.4 (pp. 145-151)
PC.QPR.3 Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.	Section 6.5 (pp. 441-444)	Section 6.5 (pp. 441-444)
PC.QPR.4 Know and apply the Remainder Theorem and the Factor Theorem.	Section 2.3 (pp. 140-143), Chapter 2 Proofs in Mathematics (p. 193)	Section 2.3 (pp. 140-143), Chapter 2 Proofs in Mathematics (p. 193)
PC.QPR.5 Understand the Fundamental Theorem of Algebra. Find a polynomial function of lowest degree with real coefficients when given its roots.	Section 2.5 (pp. 152, 162-165)	Section 2.5 (pp. 152, 162-165)
PC.QPR.6 Graph rational functions with and without technology. Identify and describe features such as intercepts, domain and range, and asymptotic and end behavior.	Section 2.6 (pp. 166-177)	Section 2.6 (pp. 166-177)
Exponential and Logarithmic Functions		

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PC.EL.1 Use the definition of logarithms to convert logarithms from one base to another and prove simple laws of logarithms.	Section 3.3 (pp. 219-225)	Section 3.3 (pp. 219-225)
PC.EL.2 Use the laws of logarithms to simplify logarithmic expressions, approximate the value of a logarithmic expression, and solve logarithmic equations.	Section 3.3 (pp. 219-225), Section 3.4 (pp. 226-235)	Section 3.3 (pp. 219-225), Section 3.4 (pp. 226-235)
PC.EL.3 Graph and solve real-world and other mathematical problems that can be modeled using exponential and logarithmic functions; interpret the solution and determine whether it is reasonable. Identify and describe features such as intercepts, domain, range, asymptotes, and end behavior.	Section 3.1 (pp. 198-208), Section 3.2 (pp. 209-218), Section 3.5 (pp. 236-247)	Section 3.1 (pp. 198-208), Section 3.2 (pp. 209-218), Section 3.5 (pp. 236-247)
PC.EL.4 Use technology to find a quadratic, exponential, logarithmic, or power function that models a relationship for a bivariate data set to make predictions.	Section 3.5 (pp. 237-239, 241, 243-245), Section 7.3 (pp. 500-501), Section 12.3 (pp. 847 #73, 848 #74), Section 12.5 (pp. 865 #4, 870 #105), Section 13.3 (pp. 897-903)	Section 3.5 (pp. 237-239, 241, 243-245), Section 7.3 (pp. 500-501), Section 12.3 (pp. 847 #73, 848 #74), Section 12.5 (pp. 865 #4, 870 #105), Section 13.3 (pp. 897-903)
Sequences and Series		
PC.SS.1 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.	Section 9.1 (pp. 610-619)	Section 9.1 (pp. 610-619)
PC.SS.2 Write arithmetic and geometric sequences both recursively and with an explicit formula; use them to model situations and translate between the two forms.	Section 9.2 (pp. 620-628), Section 9.3 (pp. 629-637)	Section 9.2 (pp. 620-628), Section 9.3 (pp. 629-637)
PC.SS.3 Find partial sums of arithmetic and geometric series and represent them using sigma notation.	Section 9.2 (pp. 620-628)	Section 9.2 (pp. 620-628)

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PC.SS.4 Model and solve real-world problems involving applications of sequences and series, interpret the solutions and determine whether the solutions are reasonable.	Section 9.1 (pp. 610-619), Section 9.2 (pp. 620-628), Section 9.3 (pp. 629-637)	Section 9.1 (pp. 610-619), Section 9.2 (pp. 620-628), Section 9.3 (pp. 629-637)
Conics		
PC.CO.1 Construct the equation of a parabola given a focus and directrix.	Section 10.2 (pp. 699-707)	Section 10.2 (pp. 699-707)
PC.CO.2 Construct the equation of a circle of given center and radius. Complete the square to find the center and radius of a circle given by an equation.	Section 1.2 (pp. 17, 20 #63-70)	Section 1.2 (pp. 17, 20 #63-70)
PC.CO.3 Construct the equations of ellipses and hyperbolas given at least 2 of the following: foci, vertices, length of an axis, or point on the curve.	Section 10.3 (pp. 708-716), Section 10.4 (pp. 717-726)	Section 10.3 (pp. 708-716), Section 10.4 (pp. 717-726)
PC.CO.4 Graph conic sections. Identify and describe features like center, vertex or vertices, focus or foci, directrix, axis of symmetry, major axis, minor axis, and eccentricity.	Section 10.2 (pp. 699-707), Section 10.3 (pp. 708-716), Section 10.4 (pp. 717-726)	Section 10.2 (pp. 699-707), Section 10.3 (pp. 708-716), Section 10.4 (pp. 717-726)