



1st Quarter (44 Days)

Resources:

Precalculus, McGraw Hill (2021)

Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
1 st : Aug 8-9 (2days)	Mathematical process standards	TSW applies mathematics to problems arising in everyday life, society, and the workplace. TSW uses a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution TSW selects tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. TSW Communicates mathematical ideas, reasoning and their implications using multiple reasoning, including symbols, diagrams, graphs and language appropriate. TSW creates and uses representations to organize, record and communicate mathematical ideas. TSW analyzes mathematical relationships. TSW display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communications	1A 1B 1C 1D 1E 1F 1G
2 nd : Aug 12-16 (5 days)	Functions from Calculus Perspective	TSW: determine and analyze the key features of exponential, logarithmic, rational, polynomial, power, trigonometric, inverse trigonometric, and piecewise TSW: defined functions, including step functions such as domain, range, symmetry, relative maximum, relative minimum, zeros, asymptotes, and intervals over which the function is increasing or decreasing. TSW: describe symmetry of graphs of even and odd functions. describe the left-sided behavior and the right-sided behavior of the graph of a function around discontinuities.	P2 I P2 D P2 M
3 rd : Aug 19-23 (5 days)	Functions from Calculus Perspective	TSW: analyze and describe end behavior of functions, including exponential, logarithmic, rational, polynomial, and power functions, using infinity notation to communicate this characteristic in mathematical and real-world problems. TSW uses the composition of two functions to model and solve real-world problems. TSW demonstrates that function composition is not always commutative. TSW determine an inverse function, when it exists, for a given function over its domain or a subset of its domain and represent the inverse using multiple representations;	P2 A P2 B P2 E P2J
4 th : Aug 26-30 (5 days)	Power, Polynomial, And Rational Functions	TSW graphs exponential, logarithmic, rational, polynomial, power, trigonometric, inverse trigonometric, and piecewise defined functions, including step functions.	P2F P2G



1 st Quarter (44 Days)			
<u>Resources:</u> Precalculus, McGraw Hill (2021)			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
		TSW graph functions, including exponential, logarithmic, sine, cosine, rational, polynomial, and power functions and their transformations, including $af(x)$, $f(x) + d$, $f(x - c)$, $f(bx)$ for specific values of a , b , c , and d , in mathematical and real-world problems;	
5 th : Sept 3-6 (4 days)	Monday: Labor Day Holiday Power, Polynomial, And Rational Functions	TSW analyze and describe end behavior of functions, including exponential, logarithmic, rational, polynomial, and power functions, using infinity notation to communicate this characteristic in mathematical and real-world problems;	P5 J
6 th : Sept 9-13 (5 days)	Power, Polynomial, And Rational Functions	TSW analyze characteristics of rational functions and the behavior of the function around the asymptotes, including horizontal, vertical, and oblique asymptotes. TSW determine various types of discontinuities in the interval $(-\infty, \infty)$ as they relate to functions and explore the limitations of the graphing calculator as it relates to the behavior of the function around discontinuities;	P2 K P2L
7 th : Sept 16-20 (5 days)	Exponential and Logarithmic Functions	TSW graphs exponential, logarithmic, rational, polynomial, power, trigonometric, inverse trigonometric, and piecewise defined functions, including step functions. TSW graph functions, including exponential, logarithmic, sine, cosine, rational, polynomial, and power functions and their transformations, including $af(x)$, $f(x) + d$, $f(x - c)$, $f(bx)$ for specific values of a , b , c , and d , in mathematical and real-world problems;	P2 F P2G
8 th : Sept 23-26 (4 days)	Friday: Professional Development Exponential and Logarithmic Functions	TSW solves polynomial equations with real coefficients by applying a variety of techniques in mathematical and real-world problems. TSW generates and solves logarithmic equations in mathematical and real-world problems. TSW generates and solves exponential equations in mathematical and real-world problems.	P5J P5H P5I
9 th : Sep30-Oct 4 (5 days)	Trigonometric Functions	TSW determines the value of trigonometric ratios of angles and solves problems involving trigonometric ratios in mathematical and real-world problems. TSW uses trigonometry in mathematical and real-world problems, including directional bearing. TSW determines the values of the trigonometric functions at special angles and relates them in mathematical and real-world problems.	P4 E P4 F P2 P P4 A



1 st Quarter (44 Days)			
<i>Resources:</i> Precalculus, McGraw Hill (2021)			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
		TSW determine the relationship between the unit circle and the definition of a periodic function to evaluate trigonometric functions in mathematical and real-world problems;	
10 th : Oct 7-11 (5 days)	Trigonometric Functions	TSW describes the relationship between degree and radian measure on the unit circle. TSW represents angles in radians or degrees based on the concept of rotation and finds the measure of reference angles and angles in standard position. TSW graphs exponential, logarithmic, rational, polynomial, power, trigonometric, inverse trigonometric, and piecewise defined functions, including step functions. TSW graph functions, including exponential, logarithmic, sine, cosine, rational, polynomial, and power functions and their transformations, including $af(x)$, $f(x) + d$, $f(x - c)$, $f(bx)$ for specific values of a , b , c , and d , in mathematical and real-world problems;	P4B P4 C P2F P2G

2 nd Quarter (43 Days)			
<i>Resources:</i> Precalculus, McGraw Hill (2021)			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
1 st : Oct 14-18 (5 days)	Trigonometric Functions	TSW determine and analyze the key features of exponential, logarithmic, rational, polynomial, power, trigonometric, inverse trigonometric, and piecewise defined functions, including step functions such as domain, range, symmetry, relative maximum, relative minimum, zeros, asymptotes, and intervals over which the function is increasing or decreasing. TSW graph $\arcsin x$ and $\arccos x$ and describe the limitations on the domain. TSW represents the addition of vectors and the multiplication of a vector by a scalar geometrically and symbolically. use the Law of Cosines in mathematical and real-world problems;	P2I P2 H P 4 J P4 H
2 nd : Oct 21-25 (5 days)	Trigonometric Identities and Equations	TSW use trigonometric identities such as reciprocal, quotient, Pythagorean, cofunctions, even/odd, and sum and difference identities for cosine and sine to simplify trigonometric expressions; and TSW generates and solves trigonometric equations in mathematical and real-world problems.	P 5 M P5 N



2 nd Quarter (43 Days)			
Resources: Precalculus, McGraw Hill (2021)			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
3 rd : Oct 28- 31 (4 days)	Sep 1/Monday: Parent/Teacher Conferences Trigonometric Identities and Equations	TSW use trigonometric identities such as reciprocal, quotient, Pythagorean, cofunctions, even/odd, and sum and difference identities for cosine and sine to simplify trigonometric expressions; and TSW generates and solves trigonometric equations in mathematical and real-world problems.	P 5 M P5 N
4 th : Nov 4-8 (5 days)	System of Equations and Matrices	TSW applies mathematics to problems arising in everyday life, society, and the workplace. TSW uses a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. TSW Communicate mathematical ideas reasoning and their implications using multiple reasoning, including symbols diagrams, graphs and language appropriate,	P1A P1 B P1 D
5 th : Nov 11-15 (5 days)	System of Equations and Matrices	TSW creates and uses representations to organize, record and communicate mathematical ideas.	P1E P1 G
6 th : Nov 25-29	Thanksgiving Holiday		
7 th : Dec 2-6 (5 days)	Conic Sections and Parametric Equations	TSW determines the conic section formed when a plane intersects a double-napped cone. TSW make connections between the locus definition of conic sections and their equations in rectangular coordinates;	P3 F P3 G
8 th : Dec 9-13 (5 days)	Conic Sections and Parametric Equations	TSW use the characteristics of an ellipse to write the equation of an ellipse with center (h, k) TSW uses the characteristics of a hyperbola to write the equation of a hyperbola with center (h, k).	P3 H P3 I
9 th : Dec 16-20 (5 days)	Conic Sections and Parametric Equations	TSW converts parametric equations into rectangular relations and converts rectangular relations into parametric equations. TSW use parametric equations to model and solve mathematical and real-world problems;	P3 B P3 C
10 th : Dec 23-Jan 3	Winter Break		



3 rd Quarter (44 Days)			
<u>Resources:</u> Precalculus, McGraw Hill (2021)			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
1 st : Jan 7-10 (4 days)	Monday: Professional Development Vectors	TSW use vectors to model situations involving magnitude and direction. TSW represent the addition of vectors and the multiplication of a vector by a scalar geometrically and symbolically. TSW apply vector addition and multiplication of a vector by a scalar in mathematical and real-world problems.	P4 I P4 J P4 K
2 nd : Jan 13-17 (5 days)	Vectors	TSW uses vectors to model situations involving magnitude and direction. TSW represents the addition of vectors and the multiplication of a vector by a scalar geometrically and symbolically. TSW apply vector addition and multiplication of a vector by a scalar in mathematical and real-world problems.	P4 I P4 J P4 K
3 rd : Jan 21-24 (4 days)	Monday: MLK Holiday Vectors	TSW uses vectors to model situations involving magnitude and direction. TSW represents the addition of vectors and the multiplication of a vector by a scalar geometrically and symbolically. TSW apply vector addition and multiplication of a vector by a scalar in mathematical and real-world problems.	P4 I P4 J P4 K
4 th : Jan 27-31 (5 days)	1/24: 100 Days of School Polar Coordinates and complex numbers	TSW graph points in the polar coordinate system and convert between rectangular coordinates and polar coordinates. TSW graph polar equations by plotting points and using technology.	P3 D P3 E
5 th : Feb 3-7 (5 days)	Polar Coordinates and complex numbers	TSW graph points in the polar coordinate system and convert between rectangular coordinates and polar coordinates. TSW graph polar equations by plotting points and using technology.	P3 D P3 E
6 th : Feb 10-13 (4 days)	Monday: District Development Day Sequences and Series	TSW represents arithmetic sequences and geometric sequences using recursive formulas. TSW calculates the nth term and the nth partial sum of an arithmetic series in mathematical and real-world problems. TSW evaluate finite sums and geometric series, when possible, written in sigma notation;	P 5 B P5 C P5 A
7 th : Feb 17-21 (5 days)	Sequences and Series	TSW calculates the nth term of a geometric series, the nth partial sum of a geometric series, and sum of an infinite geometric series when it exists.	P5 E P5 F



3 rd Quarter (44 Days)			
<u>Resources:</u> Precalculus, McGraw Hill (2021)			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
		TSW apply the Binomial Theorem for the expansion of $(a + b)^n$ in powers of a and b for a positive integer n, where a and b are any numbers;	
8th: Feb 24-28 (5 days)	Inferential Statistics	TSW applies mathematics to problems arising in everyday life, society, and the workplace. TSW uses a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution TSW selects tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.	P1 A P1 D P1 E
9th: Mar 3-7 (5 days)	Inferential Statistics	TSW Communicate mathematical ideas reasoning and their implications using multiple reasoning, including symbols, diagrams, graphs and language appropriate, TSW create and use representations to organize, record and communicate mathematical ideas. TSW analyzes mathematical relationships. TSW display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communications	P1F P1 G P1 B P1 C
10th: March 10-14	Spring Break		

4 th Quarter (46 Days)			
<u>Resources:</u> Precalculus, McGraw Hill (2021)			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
1st: Mar 17-21 (5 days)	Limits and Derivatives	TSW applies mathematics to problems arising in everyday life, society, and the workplace. TSW uses a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution TSW selects tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.	P1 A P1 D P1 E
2nd: Mar 24-Apr1	Ramadan Break		



4th Quarter (46 Days)

Resources:

Precalculus, McGraw Hill (2021)

Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
3 rd : Apr 2 -4 (3 days)	Limits and Derivatives	TSW Communicate mathematical ideas reasoning and their implications using multiple reasoning, including symbols, diagrams, graphs and language appropriate, TSW create and use representations to organize, record and communicate mathematical ideas. TSW analyzes mathematical relationships. TSW display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communications	P1F P1 G P1 B P1 C
4 th : April 7-11 (5 days)	Review and Assessment	Project based learning. Review and Assessment	Review
5 th : April 14-18 (2 days)	STAAR	Project based learning. Review and Assessment	Review
6 th : Apr 21-25 (5 days)	STAAR	Project based learning. Review and Assessment	Review
7 th : Apr 27 -May 2 (5 days)	STAAR	Project based learning. Review and Assessment	Review
8 th : May 5-9 (5 days)	STAAR	Project based learning. Review and Assessment	Review
9 th : May 12-16 (5 days)	Review and Assessment	Review and Assessment	Review
10 th : May 19-23 (5 days)	Award Ceremonies / Graduation Ceremonies	Project based learning. Review and Assessment	Review