

MAT 1375 - Precalculus

Textbook: “Precalculus” by Thomas Tradler and Holly Carley, Third Edition, available on www.lulu.com

PDF available from: <https://openlab.citytech.cuny.edu/mat1375coursehub/resources/textbook/>

Session	Topic	Homework	WebWork Set <i>(Challenge Problems are optional.)</i>
1	1. Numbers and functions	1.1, 1.2, 1.3, 1.5, 1.6, 1.7	Interval Notation Functions - Introduction to Functions
2	2. Functions via formulas	2.1 (a)-(b), 2.2, 2.4 (b), (f)-(h), 2.6 (a), (c), (d), (f)-(h)	Functions - Difference Quotient Functions - Function Notation
3	3. Functions via graphs	3.1 (a)-(c), 3.2(a)-(c), 3.3 (a)-(g) and (m)-(t), 3.4, 3.5	Functions - Linear Functions Functions - Graphs
4	4. Basic functions and transformations <i>(4.2 Exploring Functions with Desmos is optional)</i>	4.1 (a)-(b), 4.2 (a)-(c) and (e), 4.8, 4.9 (a)-(f), 4.10 (a)-(d), 4.12 (a)-(e), <i>(optional: 4.3 (a)-(d), 4.4 (c))</i>	Functions - Graphing Calculator Functions - Translations Functions - Symmetries
5	5. Operations on functions	5.1 (a)-(c), 5.2 (a)-(b), 5.3 (a)-(d), 5.4 (a)-(c), 5.5 (a)-(b), 5.6, 5.7	Functions - Operations
6	6. The inverse of a function	6.1 (a)-(c), 6.2 (a)-(f) and (l)-(p), 6.3 (a)-(c), 6.4 (a)-(c), 6.5 (a) and (d)	Functions - Inverse Functions
7	7. Dividing polynomials <i>(7.3 Synthetic Division is optional)</i>	7.1 (a)-(c) and (j)-(k), 7.2, 7.3, 7.4 (a)-(d) <i>(optional: 7.5 (a)-(d))</i>	Polynomials - Division
8	8. Graphing polynomials <i>(8.3 Graphing Polynomials by Hand is optional)</i>	8.1-8.4 all, 8.5 (a)-(c), 8.7 (b), (g), (i), (j) <i>(optional: 8.8)</i>	Polynomials - Graphs
9	First Examination		
10	9. Roots of polynomials <i>(9.1 Rational Root Theorem is optional)</i>	9.3 (a), (c), (d), (e), (g), 9.4 (a), (b), (e), 9.5 (a), (b), (d), 9.6 (a)-(c) and (f)-(i) <i>(optional: 9.1 (a)-(c))</i>	Polynomials - Theory <i>(Polynomials - Rational Roots is optional)</i>
11	10. Rational functions <i>(10.2 Graphing Rational Functions by Hand is optional)</i>	10.1, 10.2, 10.3, 10.4 (a), (b)	Rational Functions - Domains Rational Functions - Asymptotes Rational Functions - Intercepts Rational Functions - Comprehensive
12	11. Exploring discontinuities and asymptotes <i>(11.2 Limits is optional)</i>	11.1, 11.2, 11.3 (a)-(d), 11.4 (a) <i>(optional: 11.5, 11.6 (a), (d)-(f))</i>	Rational Functions - Graphs <i>(Limits is optional)</i>
13	12. Solving inequalities	12.1 (a), (b), 12.2 (a)-(c), (h), 12.4 (a)-(c), 12.5 (a), (c)-(g)	Polynomials - Inequalities Rational Functions - Inequalities

Session	Topic	Homework	WeBWorK Set
14	13. Exponential and logarithmic functions	13.1 (a)-(f), 13.2 (a)-(e), 13.4, 13.5 (a)-(b), 13.6 (a)-(h)	Exponential Functions - Graphs Logarithmic Functions - Graphs
15	14. Properties of log and log equations	14.1 (a)-(e), 14.2 (a)-(f), 14.3 (a), (b), (e)-(h)	Logarithmic Functions - Properties Logarithmic Functions - Equations
16	Midterm Examination		
17	15. Equations and applications of exp	15.1 (a)-(c) and (e), 15.2 (a)-(e) 15.3 (a)-(b), 15.5-15.10 all	Exponential Functions - Equations Exponential Functions - Growth and Decay
18	16. Compound interest and half-life	16.2 (a)-(c), 16.3 (a)-(e), 16.4-16.10 all	
19	17. Trigonometric functions reviewed	17.1 (a)-(d), 17.2 (a)-(d) 17.3 (a)-(i) and (q)-(s) 17.4 (a)-(c), 17.5 (a), (b), and (d)	Trigonometry - Unit Circle Trigonometry - Sum Difference and Half Angle Formulas
20	18. Graphing trigonometric functions	18.2, 18.3, 18.4 (a)-(d), 18.5 (c)-(j)	Trigonometry - Graphing Amplitude Trigonometry - Graphing Period Trigonometry - Graphing Phase Shift Trigonometry - Graphing Comprehensive
21	19. Inverse trigonometric functions	19.1, 19.2 (a)-(j), 19.3 (a)-(c) and (g)-(i)	Trigonometry - Inverse Functions
22	20. Solving trigonometric equations	20.1 (a)-(d), 20.2 (a)-(c), 20.4 (a)-(c), 20.5 (a)-(f)	Trigonometry - Equations
23	21. Trigonometric identities <i>(21.2 Further Identities Revisited is optional)</i>	21.1 (a)-(b), 21.2 (a), 21.3 (c)-(g), 21.4 (a) and (e)-(f) <i>(optional: 21.5 (a)-(b), 21.6 (b)-(c))</i>	Trigonometry - Identities
24	Third Examination		
25	22. Vectors in the plane	22.1 (a) and (d), 22.2 (a)-(c) and (e)-(h), 22.3 (b)-(e) and (k)-(l), 22.4 (a)-(b)	Vectors - Magnitude and Direction Vectors - Operations
26	23. Complex numbers	23.1 (a)-(c), 23.2 (b)-(e), 23.3 (a)-(c), 23.4 (a)-(d), 23.5 (a), 23.6 (a)-(d), 23.7 (a)-(d)	Complex Numbers - Operations Complex Numbers - Magnitude and Direction Complex Numbers - Polar Form
27	24. Sequences and series	24.1 (a)-(c), 24.3 (a)-(d), 24.4 (a)-(d), 24.5 (a)-(b), 24.7 (a)-(b) and (e)-(i)	Sequences - Intro Series - Intro Sequences - Arithmetic Series - Finite Arithmetic
28	25. The geometric series	25.1 (a)-(d), 25.2 (a)-(c), 25.3 (a) and (h) 25.4 (a) and (f)-(j), 25.5 (a)	Sequences - Geometric Series - Geometric
29	Review	Final Exam Review Problems	Final Exam Review
30	Final Exam		