

Summer Assignment

Course Title: BC Calculus

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Purpose of Assignment: Review calculus topics (see Calculus packet) and review Parametric, Matrix, and Polar Topics in the Precalculus Packet (all packets are linked here and are also on canvas BC summer assignment course that I will enroll you in (email me to enroll if canvas does not already offer you to join)).

Estimated time to complete Assignment: 6 hours

Due date and method of assessment for Assignment: By Monday September 13, 2021. There will be a Chapter 1 and Selected Topic in Precalculus Test the first class period of the second week of school on all the topics listed below. Your summer assignment will count as 7 homework assignment grades and will be checked for completion. If you completed AB Calculus this past year the only assignments required to be turned in are #1-4, however, #5-6 are recommended but not required. If you completed SL1 this past year, the only assignments required to be turned in are #5-6, however, #1-4 are recommended but not required (they will help you save time when we study areas and arc lengths of polar curves). If you completed neither SL1, nor AB calculus, do all 6 assignments.

Instructions for Assignment:

- 1. Matrix Multiplication in [Intensified PreCalculus Textbook Section 7.3\(Matrices\)](#)**
Read 7.3 Do p. 554 #55, 57, 65, 67;
- 2. Parametric Equations in [Intensified PreCalculus Textbook Section 6.3 \(Parametric Equations\)](#)** (need to scroll to find section)
Read 6.3. Do #7, 11, 15, 23, 27, 29, 37, 39, 43, 51, 53, 59, 61, 65;
- 3. Polar Functions in [Intensified PreCalculus Textbook Section 6.4 \(Polar Coordinates\)](#)** (need to scroll to find section)
Read 6.4. Do #1, 5, 7, 15, 23, 27, 31-34 all, 35-49 odd, 51, 57, 59, 61, 62, 63;
- 4. Graphs of Polar Functions: [Intensified PreCalculus Textbook Section 6.5\(Polar Graphs\)](#)** (need to scroll to find section)
Read 6.5. Do #3, 5, 13, 21, 23, 29, 33, 39, 41, 43, 61, 63, 65, 67, 68.
- 5. Average and Instantaneous Rate of Change in [Chapter 1 of Textbook Calculus by Paul Foerster](#)**
 - a) Read 1.1 Do p 5 # 1, 2;
 - b) Read 1.2 Do p 11 Q1-10 # 5, 6, 13, 17, 23, 27, 29;
- 6. Definite Integrals in [Chapter 1 of Textbook Calculus by Paul Foerster](#)**
 - a) Read 1.3 Do p 16 Q1-10 #2, 4, 6, 9, 11-14;
 - b) Read 1.4 Do p 21 Q1-10 # 1, 2, 7, R1, 3, 4.

RESOURCES:

Resources for #1-4 above:

Textbook Reading, Problems, and Keys:

[Intensified PreCalculus Textbook Sections 7.3\(Matrices\), 6.3 \(Parametric Equations\), 6.4 \(Polar Coordinates\) and 6.5\(Polar Graphs\)](#) (includes HW problems assigned)

[Key Bookwork 7.3 Matrices](#)

[Key 6.3 Parametrics](#)

[Key 6.4 and 6.5 Polar Coordinates and Graphs](#)

Polar Graph Paper:

[Polar Graph Paper](#)

Videos:

[You Tube Video Solving Systems of Equations using Inverse Matrices on the TI-84](#)

[Khan Academy Videos on Polar Coordinates](#)

[Khan Academy Videos on Parametric Equations](#)

[Teacher Made Video for 6.3 How to Write the Parametric Equation of a Line Segment \(HW#27-29 explained\)](#)

[Teacher Made Video for 6.3 Background explanation of Writing Equation of a Line](#)

[Teacher Made Video for 6.3 Baseball Example](#)

[Teacher Made Video for 6.3 Ferris Wheel Example](#)

[Teacher Made Video for 6.5 Polar Graphs](#)

Practice Quizzes

[Polar Practice Quiz](#)

[Key to Polar Practice Quiz](#)

[Parametric Equations Practice Quiz](#)

[Key to Parametric Equations Practice Quiz](#)

Resources for #5-6 above:

Textbook Reading, Problems and Keys:

[Chapter 1 of Textbook Calculus by Paul Foerster](#)

[Answers to Odd HW Questions in Chapter 1](#)

[Answers to Even HW Questions in Chapter 1](#)

Videos:

[Khan Academy Introduction to Limits](#)

[Khan Academy Trapezoid Rule for Approximating Areas under Curves](#)

Practice Quizzes:

[Practice Quiz Ch1.1-1.2](#)

[Key Practice Quiz Ch1.1-1.2](#)

[Practice Quiz Ch 1.3-1.4](#)

[Key Practice Quiz 1.3-1.4](#)

Desmos for Trap Rule:

[Trapezoid Rule for estimating area under a curve on the interval \$\[a,b\]\$ using a large number “n” of trapezoids](#)