Trigonometry and Precalculus Honors **Course 4532**

Desert Mountain High School Math Department

SUMMER WORK PACKET

Honors/AP/IB-level math courses at Desert Mountain are intended for students who are enthusiastic learners of mathematics and who demonstrate a strong work ethic. These students are expected to arrive "ready to go" on the first day of school.

The attached assignment is designed to help you review concepts with which you should already be familiar. Instruction is provided for each section—use it to review these essential topics as you work through the problems. It is recommended that you complete some of the problems at the beginning of the summer while the concepts are still fresh, and finish the remainder near the start of the school year. Mastery of this material is foundational to your success in this math course and should be taken seriously.

Some suggestions for the presentation and completion of mathematics assignments at DMHS are listed below. If you follow these guidelines with your summer work, you'll be well prepared to meet your math teacher's expectations during the school year:

- Use notebook or graph paper.
- Use pencil, and erase completely when needed.
- All work should be neat and legible. Do not squeeze your math into small areas. Write fractions over two lines, using a horizontal line to separate the numerator and denominator. Clearly indicate all negatives and minus signs.
- Work the problems in order, and clearly label each section and problem number.
- Begin each new section on a new sheet of paper.

I look forward to working with you this coming school year.

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Please use the links below to navigate to the online textbook hosted at OpenStax, a Rice University free textbook repository. Link for entire textbook: https://openstax.org/details/books/algebra-and-trigonometry-2e.

Click on each section below to go to that part of the online textbook. The problems are at the end of each section. You can also Click on Table of Contents to find links to each section listed below. Look through the section and especially the example problems if you are stuck on any of the questions.

Exponent Properties

Section 1.2: 5-20; 25-43

Complex Numbers

Section 2.4: 15-38

Factoring

Section 1.5: 4-50

Solving Equations and Inequalities

Section 2.2: Linear Equations: 6 – 21

Section 2.5: Quadratic Equations: 6 - 18; 19 - 24; 38 - 42

Section 2.6: Other Equations: 13 -41

Section 2.7: Inequalities and Interval Notation: 6 - 31

Functions

Section 3.1: Functions intro: 1 - 21; 27 – 33; 40 – 53; 55 - 67

Section 3.2: Domain/Range: 6 – 25; 27 - 37; 49 - 51

Section 3.3 Average Rate of Change: 26 – 34

Section 3.4: Composition: 12 – 17; 42 - 54; 58 - 62; 66 - 69; 72 - 79

Section 3.5: Transformations: 6 - 16; 24 - 30; 33 - 37; 47 - 52

Section 3.7 Inverses: 7 - 12; 33 - 41

Linear Functions

Section 4.1: 19 – 36; 50 – 59; 76 - 83; 85 - 88

Quadratic Functions

Section 5.1: Graphing: 6 – 20; 34 - 37

Polynomial Functions

Section 5.2: End Behavior: 12 - 30

Section 5.3: Graphs: 6 - 23; 30 - 41; 57 - 60

Section 5.4: Division: 9 - 16; 23 - 24; 38 - 41

Section 5.5 Zeros: 10 - 20; 22 - 27; 56 - 59

Rational Functions

Section 5.6: 6 - 29