PreCalculus

Summer IXL Extra Credit Opportunity

Hello Wonderful PreCalculus students,

I hope you are having a great start to summer! You will have a special opportunity to get extra credit over the summer. **This summer work will allow you to replace your lowest test score of the 1st Quarter with up to a 100%.**

Typically, students are given a packet of math pages to complete over the summer, and just as typically, many will either hurriedly work through the pages to complete them (getting them DONE), or wait until the end of summer and rush to finish the pages before school starts. Neither of these scenarios is helpful, so this summer the math department is using IXL. The goal is not to "ruin" your summer vacation; instead the goal is to keep your working knowledge of mathematical skills fresh.

Here is the list of the math skills all incoming Precalculus students should review over the summer. Each student should complete as many of the 100 sections below as possible to **a score of 75** by working 15-20 minutes per day over the summer vacation. This will keep your mind mathematically engaged through the summer and will enable you to start the new year "running!" Precalculus requires that you have a mastery of Algebra II skills in order to be truly ready and able to achieve real success for the next school year. The 15-20 minutes per day should not be burdensome and reaching a score of 75 in each section should not be too difficult. The time you spend each day will keep you primed and ready to tackle next year's adventure in mathematics!

Please login to IXL with your username and password to confirm that it still works as soon as possible. If you are having trouble with your username and/or password, let me know by July 8th.

In addition, it would be very helpful for all PreCalculus students to purchase the book over the summer so you can bring your book and be prepared for the first week of school. The book on Amazon (used) is more reasonable now typically than the start of the school year. Here is what you need to know:

PreCalculus Mathematics for Calculus 6th Edition, 2012 Brooks/Cole
ISBN-13: 978-0-8400-6807-1

Have a wonderful summer! I am available to answer questions through the summer except between June 23 - 30. Please email me sbundy@cvcs.org

Mrs. Bundy

Here are the sections of IXL under the Algebra 2 and Geometry headings for your review. If you complete 95 of the sections to a score of 75 **from the given sections list below** then you can replace your lowest test score of the semester with a 95%. **Whatever number of the noted sections you complete to a 75 or greater determines what test grade can replace your lowest test score of the 1st Quarter.**

Log on to the website: www.ixl.com/signin/cvcs. Input in your username and password and begin the extra credit opportunity by clicking on the icon "Math" at the top of the page and then selecting "Algebra 2". Once you click on Algebra 2, you will see all Algebra 2 sections available to complete. **Choose only the section titles I have listed below to earn the extra credit!** *Please note that section numbers may change with a new IXL update, focus on the topic titles not the letters/numbers*. Any other sections will not earn extra credit but may be helpful to you if you want to dig deeper. I will be able to see your progress throughout the summer. This is summer work and must be completed between June 7th and the first day of school in order to receive the extra credit.

***IXL Topics to complete under Algebra 2*:**

Variable Expressions

A: 1 (Evaluate variable expressions involving integers)
A: 2 (Evaluate variable expressions involving rational numbers)
A: 3 (Simplify variable expressions using properties)
A: 4 (Sort factors of single variable expressions)
A: 5 (Sort factors of multi-variable expressions)

Equations

B: 1 (Solve linear equations)
B: 3 (Solve equations: complete the solution)
B: 6 (Solve multi-variable equations)

Inequalities

C: 4 (Solve linear inequalities)
C: 6 (Solve absolute value inequalities)
C: 11 (Solve quadratic inequalities)

Functions

D: 1 (Domain and range)
D: 2 (Identify functions)
D: 3 (Evaluate functions)
D: 4 (Find values using function graphs)
D: 5 (Complete a table for a function graph)
D: 8 (Find the slope of a linear function)
D: 9 (Graph a linear function)
D: 10 (Write the equation of a linear function)
D: 11 (Linear functions over unit intervals)
D: 12 (Average rate of change)

Systems of equations

E: 2 (Solve a system of equations by graphing)
E: 6 (Solve a system of equations using substitution)
E: 8 (Solve a system of equations using elimination)
E: 10 (Solve a system of equations using any method)

Complex Numbers

I: 1 (Introduction to complex numbers)
I: 6 (Add, subtract, multiply, and divide complex numbers)
I: 7 (Absolute values of complex numbers)

Factoring

J: 1 (Factor out a monomial)
J: 3 (Factor quadratics)
J: 4 (Factor using a quadratic pattern)
J: 5 (Factor by grouping)
J: 7 (Factor polynomials)

Quadratic Functions

K: 8 (Solve a quadratic equation by factoring)
K: 9 (Complete the square)
K: 11 (Solve a quadratic equation using the quadratic formula)

Polynomials

L: 2 (Add & subtract polynomials)
L: 3 (Multiply polynomials)
L: 4 (Divide polynomials using long division)
L: 5 (Divide polynomials using synthetic division)
L: 7 (Evaluate polynomials using synthetic division)
L: 8 (Solve polynomial equations)
L: 9 (Find the roots of factored polynomials)
L: 15 (Match polynomials and graphs)

Radical Functions & Expressions

M: 1 (Roots of integers)
M: 2 (Roots of rational numbers)
M: 4 (Simplify radical expressions with variables I)
M: 7 (Multiply radical expressions)
M: 8 (Simplify radical expressions involving fractions)
M: 10 (Simplify radical expressions using the distributive property)

Rational Exponents

N: 2 (Multiplication with rational exponents)
N: 3 (Division with rational exponents)
N: 4 (Power rule)

Rational Functions & Expressions

O: 1 (Rational functions: asymptotes and excluded values)
O: 2 (Evaluate rational expressions I)
O: 4 (Simplify rational expressions)
O: 5 (Multiply and divide rational expressions)
O: 6 (Add and subtract rational expressions)
O: 7 (Solve rational equations)

Function Operations

P: 1 (Add and subtract functions)
P: 2 (Multiply functions)
P: 3 (Divide functions)

Variation

R: 1 (Write and solve direct variation equations)
R: 2 (Write and solve inverse variation equations)
R: 4 (Write joint and combined variation equations I)
R: 5 (Find the constant of variation)

Logarithms

S: 2 (Convert between natural exponential and logarithmic form)
S: 3 (Convert between exponential and logarithmic form, all bases)
S: 4 (Evaluate logarithms)
S: 12 (Properties of logarithms, mixed review)

Exponential & Logarithmic Functions

T: 2 (Evaluate exponential functions)
T: 4 (Match exponential functions and graphs)
T: 11 (Identify linear and exponential functions)

Parabolas

U: 8 (Find properties of a parabola from equations in general form)
U: 9 (Graph parabolas)

Circles

V: 6 (Find properties of circles from equations in general form)
V: 7 (Graph circles)

Ellipses

W: 7 (Find properties of ellipses from equations in general form)

Hyperbolas

X: 9 (Find properties of hyperbolas from equations in general form)

Angle Measures

Y: 1 (Convert between radians and degrees)
Y: 2 (Radians and arc length)
Y: 3 (Graphs of angles)
Y: 4 (Quadrants)
Y: 5 (Coterminal angles)
Y: 6 (Reference angles)

Trigonometry

Z: 1 (Pythagorean Theorem and its converse)
Z: 2 (Special Right Triangles)
Z: 3 (Trigonometric ratios: sin, cos, and tan)
Z: 4 (Trigonometric ratios; csc, sec, and cot)
Z: 7 (sin, cos, and tan of special angles)
Z: 8 (csc, sec, and cot of special angles)
Z: 10 (Find trigonometric functions using a calculator)
Z: 11 (Inverse of sin, cos, and tan)
Z: 13 (Inverse of csc, sec, and cot)
Z: 14 (Solve trigonometric equations I)
Z: 16 (Trigonometric ratios: find a side length)
Z: 17 (Trigonometric ratios; find an angle measure)
Z: 19 (Law of Sines)
Z: 20 (Law of Cosines)
Z: 22 (Area of a triangle; sine formula)