NAME:_____

Prerequisite skills you need to have:

Terms: (matching)

A. Acute angle	____ an exact location in space
B. Obtuse angle	____ a triangle with two congruent sides.
C. Right angle	____ a portion of a line with two endpoints.
D. Straight angle	____ the distance around an object
E. Scalene triangle	____ a parallelogram with 4 equal sides
F. Isosceles triangle	____ an angle greater than 90° but less than 180°
G. Equilateral triangle	____ a triangle with no congruent sides
H. Bisect	____ a common endpoint of two rays
I. Trisect	____ two angles that added together equal 90°
J. Line segment	____ the number of cubic units to fill a space
K. Ray	____ a flat surface that extends forever
L. Complementary	____ an angle of 90°
M. Supplementary	____ a quadrilateral with opposite sides parallel
N. Rhombus	____ figures that are the same shape and size
O. Square	____ the number of square units to fill a space
P. Parallelogram	____ straight path extending infinitely in two directions
Q. Rectangle	____ two angles that added together equal 180°
R. Pentagon	____ a rectangle having all four sides of equal length
S. Point	____ figures that are the same shape but not the same size
T. Line	____ to cut or divide into two equal parts
U. Plane	____ part of a line that extends infinitely in one direction
V. Perimeter	____ an angle whose measure is between 0° and 90°
W. Area	____ a triangle with three congruent sides
X. Volume	____ a parallelogram with four right angles
Y. Vertex	____ a polygon having five sides
Z. Similar	____ to divide into three equal parts
AA. Congruent	____ an angle of 180°

Formulas: write the formulas used for each of these

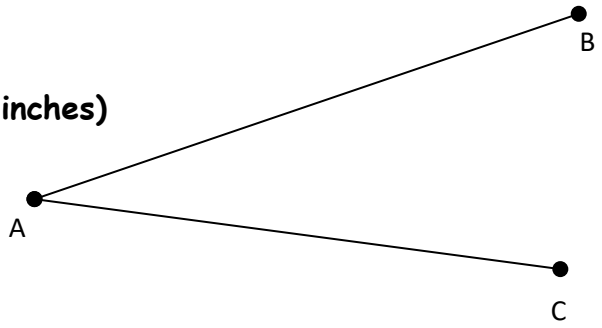
The triangle sum of angles	The Pythagorean Theorem
Circumference of a circle	Area of a circle
Area of a rectangle	Area of a triangle
Area of a parallelogram	Area of Trapezoid

Measurement:

Measure with a protractor and ruler (cm and inches)

Measure $\overline{AB}$ and $\overline{AC}$ to the nearest $\frac{1}{8}$ inch

Measure $\angle BAC$ with a protractor



Solving linear equations and inequalities

Solve the following inequality. Graph the solution and write in interval notation.

$4-3(x-2)\geq 8x-45$

Solving quadratic equations - Solve the following equations:

$6x^2-4=5x$	$x^2+17x+70=0$	$x^2+4=10$	$-x^2+2x+15=0$

Writing equations of lines including parallel and perpendicular

Write the equation of the line through (2,5) that is perpendicular to the line $y=\frac{2}{3}x+7$

Write the equation of the line parallel to y = x - 3 through the point (6,8)

Solving systems of equations (use elimination on a. and substitution on b.)

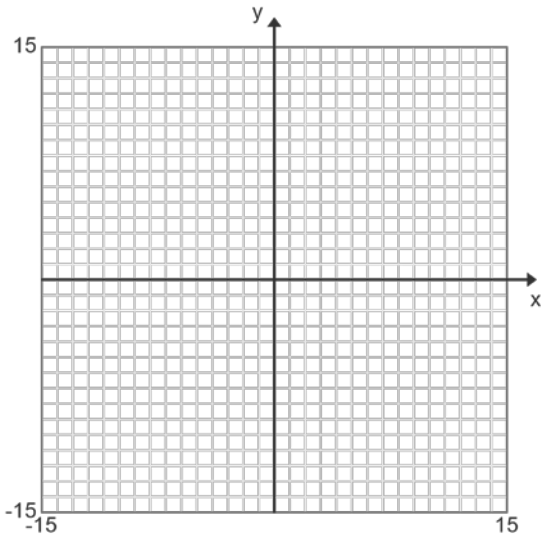
a. $\begin{cases} 2x+3y=-6 \\ 3x-y=13 \end{cases}$

b. $\begin{cases} 5x-y=28 \\ y=-3x+20 \end{cases}$

Analyzing quadratic equations

Find the following for $f(x)=x^2+3x-28$

a. y – intercepts
b. x – intercepts
c. vertex
d. line of symmetry
e. graph



Solve by completing the square

$x^2 + 10x = 39$

$x^2 + 6x + 1 = 0$

$2x^2 + 3x - 2 = 0$

$3x^2 + 4x + 5 = 6$

Exponent rules – Simplify the expressions:

$2x^3+3x^5+7x^5+13x^3$

$(3x^7)(4x^4)$

$(5x^3)^3$

$\frac{2x^4}{8x^5}$

Using your calculator, solve $x^4=28$ and round to the nearest hundredth.

Radical Rules - Simplify:

$\sqrt{45}$ $\sqrt{392}$ $\frac{5}{\sqrt{3}}$ $\frac{\sqrt{10}}{2\sqrt{2}}$

$3\sqrt{3}+5\sqrt{12}$ $3\sqrt{5}\cdot 4\sqrt{15}$ $11\sqrt{3}\times 5$ $\frac{12}{2+\sqrt{3}}$

Circles:

Write the equation of the circle that has center (-3,7) and radius 4

What is the center and radius of a circle with the equation $(x-3)^2 + (x+5)^2 = 16$

What is the exact area of a circle that has a circumference of 8π?

Honors Geometry Summer Review Name _____

Welcome and description of course:

Welcome to Honors Geometry! This class will teach you to use problem solving skills in life and in the workplace.

Logical thinking skills affect all aspects of our everyday life. Do you put your socks on before your shoes or your shoes on before your socks? Geometric problem solving trains your brain to think logically. Every one of us can do the same type of exercise over and over again. Working your way through different types of scenarios involves critical thinking skills acquired in geometry.

People also need to learn geometry because of the way it affects us on a day-to-day basis. Having a grasp of geometry constructions helps us to better understand our world. Whether you're playing a game of COD MW3 or piloting a spaceship, you're using the logic of geometry to guide your decision making.

What if you're not interested in becoming an architect or Space Shuttle pilot? Geometry can be used in other practices as well. If you're into sports, what you may refer to as a football is actually an oblong spheroid. The specific shape of a football affects the way it reacts when tossed. Understanding this can give you a better edge of throwing that perfect spiral.

Whatever you decide to do, geometry will help you make great decisions.

We will begin next year assuming you have mastered the skills below. Please work these problems WITHOUT A CALCULATOR over the summer to refresh your memory. Remember to DEMONSTRATE YOUR BEST WORK and make sure your answers are reasonable. Many of the answers can be checked and you should do just that whenever possible. Also, always produce an exact value unless you are directed to approximate an answer. This packet is recommended but not required.