Name: _____ Date: _____

Summer 2019 Geometry Packet
(for students entering Geometry in the Fall)

The goal of summer math is to ensure that students are prepared for their high school math classes. The skills learned in elementary and middle schools are an integral part of success at the high school level, and this packet covers many of the important concepts that students entering high school should have mastered.

All students entering Geometry as either a sophomore or freshman must complete this math packet over the summer. It is due **September 6, 2019**. Students who submit their packets on the first day of school will earn extra credit. Geometry Summer Packets **will not be accepted after September 6, 2019.**

You will receive one grade for this packet of 100% for **completing all of the problems**. Be sure to **show all work** while completing the problems. Additionally, all students will be taking a pretest within the first days of school on the information covered in this math packet determined by your teacher.

In your Geometry class, you will be using a calculator often. Therefore, students are encouraged to buy their own **SCIENTIFIC CALCULATOR** (**not a graphing calculator).** Students are more efficient using a calculator with which they are familiar with. TI-30 XS (Texas Instrument) is available for in class use only.

For more practice on these skills, use the following internet sources:

www.purplemath.com
www.khanacademy.com

If you lose your packet, there is a copy on the school department website.

Good luck and have a great summer!

PARCC
Partnership for Assessment of Readiness for College and Careers

High School Assessment Reference Sheet

1 inch = 2.54 centimeters
1 meter = 39.37 inches
1 mile = 5,280 feet
1 mile = 1,760 yards
1 mile = 1.609 kilometers

1 kilometer = 0.62 mile
1 pound = 16 ounces
1 pound = 0.454 kilograms
1 kilogram = 2.2 pounds
1 ton = 2,000 pounds

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 gallon = 3.785 liters
1 liter = 0.264 gallons
1 liter = 1000 cubic centimeters

Triangle	$A = \frac{1}{2}bh$
Parallelogram	$A = bh$
Circle	$A = \pi r^2$
Circle	$C = \pi d$ or $C = 2\pi r$
General Prisms	$V = Bh$
Cylinder	$V = \pi r^2 h$
Sphere	$V = \frac{4}{3}\pi r^3$
Cone	$V = \frac{1}{3}\pi r^2 h$
Pyramid	$V = \frac{1}{3}Bh$

Pythagorean Theorem	$a^2 + b^2 = c^2$
Quadratic Formula	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Arithmetic Sequence	$a_n = a_1 + (n-1)d$
Geometric Sequence	$a_n = a_1 r^{n-1}$
Geometric Series	$S_n = \frac{a_1 - a_1 r^n}{1 - r}$ where $r \neq 1$
Radians	$1\ radian = \frac{180}{\pi}\ degrees$
Degrees	$1\ degree = \frac{\pi}{180} radians$
Exponential Growth/Decay	$A = A_0\, e^{k(t-t_0)} + B_0$

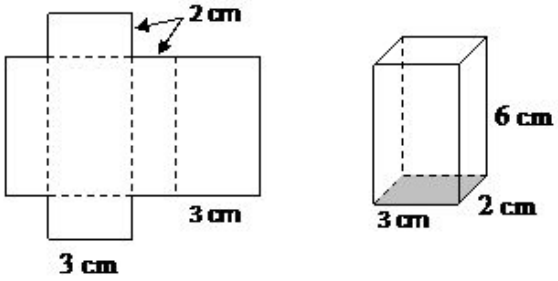
Integer Rules:

Addition: Same sign, just **ADD** and keep the sign
Different signs, **SUBTRACT** and keep the sign of the larger number

Subtraction: Change the operation to addition and change the sign of the second number.
Now it is **ADDITION**, use the rules from above

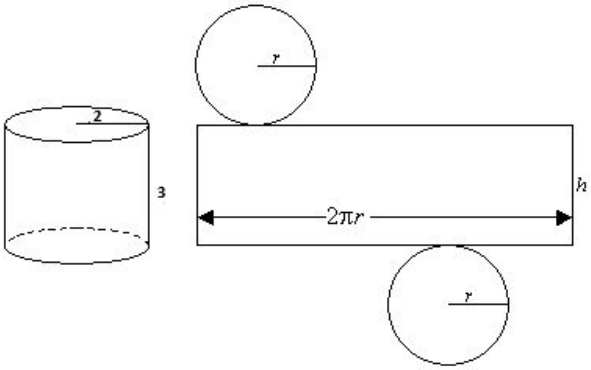
Multiplication/Division:
If the signs are the same, the answer is **POSITIVE**
If the signs are different, the answer is **NEGATIVE**

1) Find the perimeter of the net. P = _____

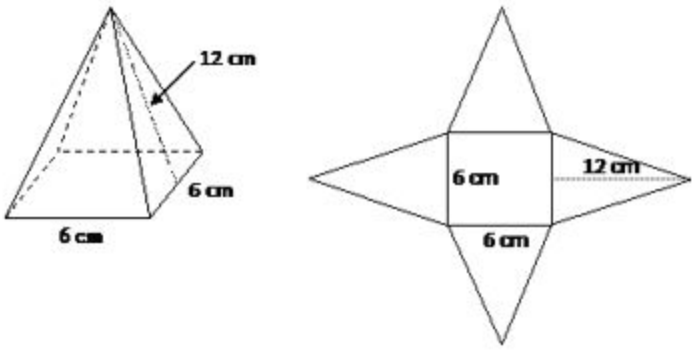


Calculate the surface area of the following figures. Use the PARCC formula sheet given in the packet. ***Round your answers to the nearest hundredth.***

2)

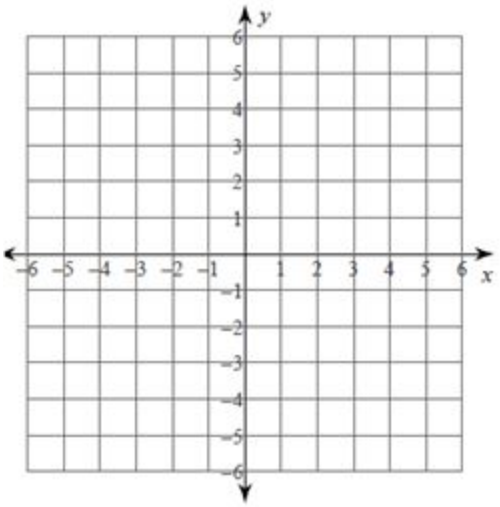


3)

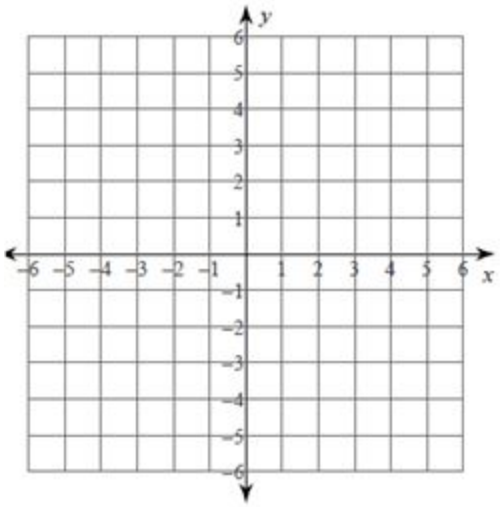


GRAPH THE FOLLOWING EQUATIONS.

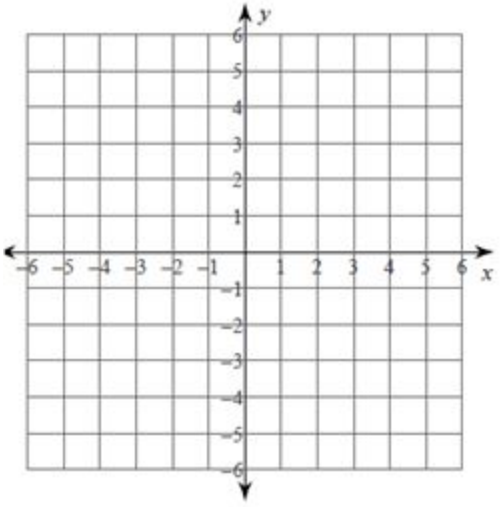
1) $y = 2x - 3$



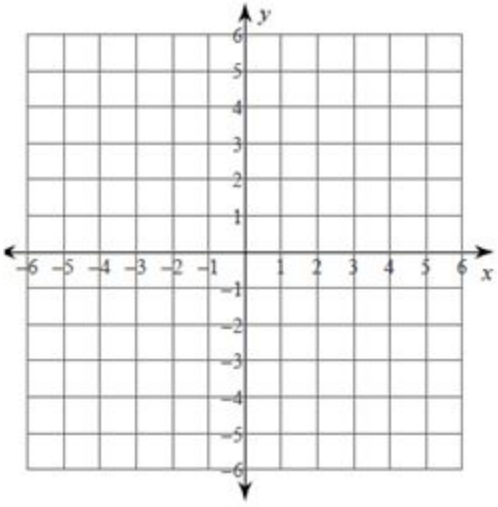
2) $y = -3x + 2$



3) $y = \frac{2}{3}x + 1$



4) $3x + 2y = 6$



Solve the following equations. Show all work!

1) $7c + 12 = -4c + 78$

2) $\frac{b-4}{6} = \frac{b}{2}$

3) $5(g + 8) - 7 = 103$

4) $12 - \frac{4}{5}(x + 15) = 4$

5) $3(m - 2) = 2(3m + 3)$

6) Solve for u.
$2u = 3vw + t$

Understanding Parallel and Perpendicular Lines

1. **Consider the equation y= (5/8)x - 1**

a. What is the slope of the graph of this equation? _____

b. What is the slope of the lines parallel to this equation? _____

c. What is the slope of the lines perpendicular to this equation? _____

2. **Consider the equation 2x + 8y = 12**

a. Rewrite equation in slope - intercept form._____

b. What is the slope of the graph of this equation? _____

c. What is the slope of the lines parallel to the graph of this equation?_____

d. What is the slope of the lines perpendicular to the graph of this equation?_____

Perfect Squares and Square Roots

List all of the perfect squares under 150 (there are twelve) and find their square roots.

Simplify the following radicals. No decimals. Show work!

1) $\sqrt{32}$ 2) $3\sqrt{18}$ 3) $\sqrt{5}\cdot\sqrt{10}$

4) $\frac{\sqrt{6}}{\sqrt{12}}$ 5) $\sqrt{\frac{72}{6}}$ 6) $\sqrt{\frac{35}{15}}$

Factor each expression. Show all work!

1) $14t^2 - 21tu + 35t^2u^2$

2) $x^2 - 4x - 12$

3) $2b^2 + 13b - 24$

4) $16t^2 - 36t + 8$

5) $9r^2 - 12r + 4$

6) $64 - 36x^2$