Big Apple Academy **Mathematics Department**

Grade 6 → 7 Summer Homework Math Package

It is important that you keep practicing your mathematical Knowledge over the summer to be ready for **7th grade**. In this Package you will find a calendar of activities for the month of July and August.

What should you do?

- Take a new notebook for every-day practice. For each day you will need 2 pages;
- Start each day with vocabulary words: copy each word from the given day-list, find and write the meaning of each word in your notebook on the front page (pages 1,3,5, . . . and so on);
- Use the internet to find the meaning of each word you do not know:
  www.a**mathsdictionaryforkids**.com/**dictionary**.html
- Solve the problem of the day and write the solution with full explanation on the back page (pages 2,4,6,. . . and so on);
- Have the date of the entry. Have a clear and complete answer. Be neat and organize.

Do not forget to bring your notebook to school on September 1, 2015 - the first school day.

Have a Great Summer!!

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July 6 → 7 **Monday**	Integers, negative integers, positive integers, absolute value **Tuesday 30**	Distributive Property **Wednesday 1**	Closure Property counterexamples **Thursday 2**	Exponent, base, power **Friday 3**	Laws of Exponents **Saturday 4**	**Incoming 7th Grade**
Order of Operations **6**	Consecutive numbers **7**	Expression, Evaluation of the Expression **8**	Like Terms, constant, coefficient, simplest form **9**	Two- step equation **10**	Formula **11**	**Summer Home Work VOCABULARY**
Division Property of Equality **13**	Terminating decimal **14**	Repeating Decimal **15**	Compatible numbers **16**	Negative exponent. **17**	Scientific Notation **18**	
Prime Numbers **20**	Prime factorization **21**	Least common multiple **22**	Division Property of Inequality **23**	Stem- and -Leaf plot **24**	Factorial **25**	
Fundamental Counting Principal **27**	Statistics **28**	Combination **29**	Permutation **30**	Probability **31**		

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July **6 → 7** **Monday**	Order from greatest to least: $-20,\ 12,\ -4,\ |-9|,\ -|-7|$ **Tuesday**	Find the values of the missing integers 8[3-6]=_*3 – 8*_ **Wednesday 1**	Tell whether this set is closed under given operation. If not, provide a counterexample. Set: Negative integers Operation: Multiplication. **Thursday 2**	Use the law of exponents to simplify expression $\frac{3^7 * 3^0}{3^4}$ **Friday 3**	Evaluate: $-(-8)^2$ **Saturday 4**	**Incoming 7th Grade**
$(6-24 \div 3) + 3^2 * 2$ **6**	The sum of the squares of two consecutive numbers is 135. What are those two numbers? **7**	Evaluate $5x^3y^4$ for X= – 2, y= – 1 **8**	-3(r+4) – 4(3-r) 5c-d-8c-d **9**	Solve and check 34= 9 – w/2 **10**	The perimeter of a square is 28 meters. What is the area? **11**	**Summer Home Work for FUN**
Solve : 9k-4k-8k = -15 **13**	Write 15/16 in decimal form and identify as terminating or repeating **14**	Order from least to greatest 3.33, 3.3, 33 1/3, -3.3 **15**	Estimate a quotient by using the compatible numbers. 622.9 ÷7.75 **16**	Evaluate $\frac{9^0}{9^{-2}}$ **17**	Write in scientific notation -0. 000000705 **18**	
Find the sum of the first 7 prime numbers. **20**	Write the prime factorization of this number in exponential form. 36,036 **21**	A pair of numbers has a GCF of 6 and a LCM of 60. What could the numbers be? **22**	Solve and graph – 6w – 2w > -80 **23**	Make a stem- and-leaf plot using numbers: 51,53,45,39,36,47, 42,33,32,31 **24**	Find the Value **11!** **9!** **4! – 5!** **25**	
Find the number of 3-digit codes that can be made using all digits, if digits can be repeated and if digits cannot be repeated. **27**	Remove a number from the following set so the mean is 20: 25,23,12,10,20 **28**	How many different groups of 3 out of 10 books you can make? **29**	How many 4-digits pin-codes can you make by using the only odd digits? **30**	If you toss the fair coin 3 times, what is the probability to get all 3 head? **31**		

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August **6 → 7** **Monday 3**	Mean (Average) Median Range, Mode, Central Tendency, **Tuesday 4**	Venn Diagram, Prime Number **Wednesday 5**	Pascal's Triangle **Thursday 6**	Sequence, term, Arithmetic and geometric sequence **Friday 7**	Rational Number, Irrational Number **Saturday 8**	**Incoming 7th Grade**
Polygon, Interior and Exterior Angles **10**	Regular Polygon **11**	Triangle Inequality Theorem **12**	Quadrilaterals, parallelogram, rectangle, rhombus, square, trapezoid, kite **13**	Perfect Square **14**	Pythagorean Theorem **15**	**Summer Home Work VOCABULARY**
Pythagorean triple **17**	Density property **17**	Greatest common factor, Divisibility rules **18**	Ratio, equivalent ratios **19**	Rate, Unit rate, Unit cost **20**	Proportion **21**	
Percent **24**	Percent Increase **23**	Profit, selling price **24**	Sales tax, sales tax rate, Total Cost **25**	Similar figures **26**	Law of Exponents for division **27**	
Linear Equation **31**						

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August **6 → 7** **Monday 3**	Find the median, mean, mode, and range of the set -2,6,2,-4. **Tuesday 4**	Draw a Venn Diagram to show the prime factors of 140 and 105, and their common factors. **Wednesday 5**	Draw first 8 rows of Pascal's l Triangle **Thursday 6**	Write the rule and find the missing term: 75, 15 ,3,__,0.12… **Friday 7**	Write three distinct rational numbers and 3 distinct irrational numbers . **Saturday 8**	**Incoming 7th Grade**
Find the measure of each interior and exterior angle of regular pentagon. **10**	If the sum of the measure of a regular polygon is 1800^{o}, how many sides does the polygon have? **11**	Can sides lengths 3cm, 5cm, 11 cm be used to form a triangle? Write yes or no, explain. **12**	List all possible quadrilaterals that have two pairs of adjacent sides that are congruent **13**	Give examples of a perfect square that is also a perfect cube. **14**	Determine whether a triangle with sides 4m ,5m, 6m is a right triangle. **15**	**Summer Home Work for FUN**
Find the length of a diagonal of the rectangle whose length is 12 inches and width is 5 inches. **17**	Write a rational number that is between 1/4 and 1/3. **18**	What is the greatest common factor of 108, 81, 162 , 216? **19**	Express each ratio in simplest form. 8:4/5 **20**	Find the Better buy: 3 cans for $4 or 4 cans for $5.50. **21**	Write two different proportions using this set of numbers $1.80, $1.20, 14,21 **22**	
What percent of 10 is 1/5 **24**	An amount increased from 40 to 45. Find the Percent increase. **25**	An antique car dealer made a profit of 15% on a car that cost $60,000. For how much did he sell the car? **26**	Find tip and total cost of $65 dinner with 18% tip. **27**	Under the late afternoon sun a lamppost cast a 30ft shadow. Nearby a 5ft tall person casts a shadow 15ft tall. What is the height of the lamp post?. **28**	$(-72x^{6}y^{3}z^{2}) / (8x^{5}yz^{2})$ **29**	
Solve: $14 – 5(p+3) = -16$ **31**