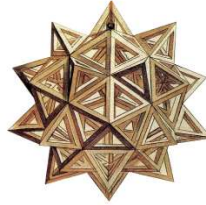


**Big Apple Academy  
2021  
Mathematics Department**



**Summer Math Homework Package**

**Grade 6 → 7**

It is important that you keep practicing your mathematical Knowledge over the summer to be ready for **7<sup>th</sup> 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:  
[https://dynamiclearningmaps.org/sites/default/files/documents/ERP/dlm\\_math\\_glossary.pdf](https://dynamiclearningmaps.org/sites/default/files/documents/ERP/dlm_math_glossary.pdf)
- 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 9, 2021 - the first school day.

**Have a Great Summer!!**


# Big Apple Academy

# Mathematics Department

<div style="background-color: black; color: white; padding: 5px; text-align: center; font-weight: bold; font-size: 1.2em;">July</div> <p style="text-align: center; font-weight: bold; margin-top: 10px;">6 → 7</p> <p style="text-align: center; font-weight: bold; margin-top: 10px;">Monday</p>	<p style="text-align: center; font-weight: bold;">Tuesday</p>	<p style="text-align: center; font-weight: bold;">Wednesday</p>	<p style="text-align: center; font-weight: bold;">Thursday</p>	<p style="text-align: center; font-weight: bold;">Friday</p>	<p style="text-align: center; font-weight: bold;">Saturday</p>	<p style="text-align: center; font-weight: bold; font-size: 1.2em;">Incoming 7<sup>th</sup> Grade</p>
			1	2	3	
<p>Order of Operations</p> <p style="text-align: right; font-weight: bold;">5</p>	<p>Consecutive numbers</p> <p style="text-align: right; font-weight: bold;">6</p>	<p>Expression, Evaluation of the Expression</p> <p style="text-align: right; font-weight: bold;">7</p>	<p>Like Terms, constant, coefficient, simplest form</p> <p style="text-align: right; font-weight: bold;">8</p>	<p>Two- step equation</p> <p style="text-align: right; font-weight: bold;">9</p>	<p>Formula</p> <p style="text-align: right; font-weight: bold;">10</p>	<p style="text-align: center; font-weight: bold; font-size: 1.2em;">Summer Home Work VOCABULARY</p>
<p>Division Property of Equality</p> <p style="text-align: right; font-weight: bold;">12</p>	<p>Terminating decimal</p> <p style="text-align: right; font-weight: bold;">13</p>	<p>Repeating Decimal</p> <p style="text-align: right; font-weight: bold;">14</p>	<p>Compatible numbers</p> <p style="text-align: right; font-weight: bold;">15</p>	<p>Negative exponent.</p> <p style="text-align: right; font-weight: bold;">16</p>	<p>Scientific Notation</p> <p style="text-align: right; font-weight: bold;">17</p>	
<p>Prime Numbers</p> <p style="text-align: right; font-weight: bold;">19</p>	<p>Prime factorization</p> <p style="text-align: right; font-weight: bold;">20</p>	<p>Least common multiple</p> <p style="text-align: right; font-weight: bold;">21</p>	<p>Division Property of Inequality</p> <p style="text-align: right; font-weight: bold;">22</p>	<p>Stem- and -Leaf plot</p> <p style="text-align: right; font-weight: bold;">23</p>	<p>Factorial</p> <p style="text-align: right; font-weight: bold;">24</p>	
<p>Fundamental Counting Principal</p> <p style="text-align: right; font-weight: bold;">26</p>	<p>Permutations</p> <p style="text-align: right; font-weight: bold;">27</p>	<p>Combinations</p> <p style="text-align: right; font-weight: bold;">28</p>	<p>Integers, negative integers, positive integers, absolute value</p> <p style="text-align: right; font-weight: bold;">29</p>	<p>Distributive Property</p> <p style="text-align: right; font-weight: bold;">30</p>	<p>Polynomial</p> <p style="text-align: right; font-weight: bold;">31</p>	

# Big Apple Academy

# Mathematics Department

<div style="background-color: black; color: white; padding: 5px; display: inline-block;"><b>July</b></div> <b>6 → 7</b>							
Monday	Tuesday	Wednesday	Thursday 1	Friday 2	3	<b>Incoming 7<sup>th</sup> Grade</b>	
$(6 - 24 \div 3) + 3^2 * 2$  <b>5</b>	The sum of the squares of two consecutive numbers is 135. What are those two numbers?  <b>6</b>	Evaluate $5x^3y^4$ for $X = -2, y = -1$  <b>7</b>	Tell whether this set is closed under given operation. If not, provide a counterexample. Set: Negative integers Operation: Multiplication.  $-3(r+4) - 4(3-r)$  $5c-d-8c-d$  <b>8</b>	Use the law of exponents to simplify expression $\frac{3^7 * 3^0}{3^4}$  <b>9</b>	Evaluate: $- (-8)^2$  <b>10</b>	<b>Summer Home Work for FUN</b>	
Solve : $9k-4k-8k = -15$  <b>12</b>	Write 15/16 in decimal form and identify as terminating or repeating  <b>13</b>	Order from least to greatest 3.33, 3.3, $33 \frac{1}{3}$ , -3.3  <b>14</b>	Estimate a quotient by using the compatible numbers. $622.9 \div 7.75$  <b>15</b>	Evaluate $\frac{9^0}{9^{-2}}$  <b>16</b>	Write in scientific notation -0.000000705  <b>17</b>		
Find the sum of the first 7 prime numbers.  <b>19</b>	Write the prime factorization of this number in exponential form. 36,036  <b>20</b>	A pair of numbers has a GCF of 6 and a LCM of 60. What could the numbers be?  <b>21</b>	Solve and graph $-6w - 2w > -80$  <b>22</b>	Make a stem- and-leaf plot using numbers: 51,53,45,39,36,47,42,33,32,31  <b>23</b>	Find the Value <b>11!</b> <b>9!</b> <b>4! - 5!</b>  <b>24</b>		
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.  <b>26</b>	How Many three letter arrangements can you make from the letters in the word Number?  <b>27</b>	How many ways can you choose 2 letters from the word MINUS?  <b>28</b>	Order from greatest to least: $-20, 12, -4,  -9 , - -7 $  <b>29</b>	Find the values of the missing integers  $8[3-6] = \_ * 3 - 8 * \_$  <b>30</b>	Find $-5x-10 > 20$  <b>31</b>		

# Big Apple Academy

# Mathematics Department

<p><b>August</b></p> <p>6 → 7</p> <p>Monday 2</p>	<p>Range, Mode, Central Tendency</p> <p>Tuesday 3</p>	<p>Median</p> <p>Wednesday 4</p>	<p>Pascal's Triangle</p> <p>Thursday 5</p>	<p>Sequence, term, Arithmetic and geometric sequence</p> <p>Friday 6</p>	<p>Rational Number, Irrational Number</p> <p>Saturday 7</p>	<p><b>Incoming 7<sup>th</sup> Grade</b></p>
<p>Polygon, Interior and Exterior Angles</p> <p>9</p>	<p>Regular Polygon</p> <p>10</p>	<p>Triangle Inequality Theorem</p> <p>11</p>	<p>Quadrilaterals, parallelogram, rectangle, rhombus, square, trapezoid, kite</p> <p>12</p>	<p>Perfect Square</p> <p>13</p>	<p>Pythagorean Theorem</p> <p>14</p>	<p><b>Summer Home Work VOCABULARY</b></p>
<p>Pythagorean triple</p> <p>16</p>	<p>Density property</p> <p>17</p>	<p>Greatest common factor, Divisibility rules</p> <p>18</p>	<p>Ratio, equivalent ratios</p> <p>19</p>	<p>Rate, Unit rate, Unit cost</p> <p>20</p>	<p>Proportion</p> <p>21</p>	
<p>Percent</p> <p>23</p>	<p>Percent Increase</p> <p>24</p>	<p>Profit, selling price</p> <p>25</p>	<p>Sales tax, sales tax rate, Total Cost</p> <p>26</p>	<p>Similar figures</p> <p>27</p>	<p>Law of Exponents for division</p> <p>28</p>	
<p>Linear Equation</p> <p>30</p>	<p>Mean</p> <p>31</p>					

<p><b>August</b></p> <p><b>6 → 7</b></p> <p><b>Monday 2</b></p>	<p>Remove a number from the data set so the median is 12: 10,6,3,13,12,4</p> <p><b>Tuesday 3</b></p>	<p>Find the median, mean, mode, and range of the set -2,6,2,-4.</p> <p><b>Wednesday 4</b></p>	<p>Draw first 8 rows of Pascal's Triangle</p> <p><b>Thursday 5</b></p>	<p>Write the rule and find the missing term: 75, 15 ,3,__,0.12...</p> <p><b>Friday 6</b></p>	<p>Write three distinct rational numbers and 3 distinct irrational numbers</p> <p><b>Saturday 7</b></p>	<p><b>Incoming 7<sup>th</sup> Grade</b></p>
<p>Find the measure of each interior and exterior angle of regular pentagon.</p> <p><b>9</b></p>	<p>If the sum of the measure of a regular polygon is <math>1800^\circ</math>, how many sides does the polygon have?</p> <p><b>10</b></p>	<p>Can sides lengths 3cm, 5cm, 11 cm be used to form a triangle? Write yes or no, explain.</p> <p><b>11</b></p>	<p>List all possible quadrilaterals that have two pairs of adjacent sides that are congruent</p> <p><b>12</b></p>	<p>Give examples of a perfect square that is also a perfect cube.</p> <p><b>13</b></p>	<p>Determine whether a triangle with sides 4m ,5m, 6m is a right triangle.</p> <p><b>14</b></p>	<p><b>Summer Home Work for FUN</b></p>
<p>Find the length of a diagonal of the rectangle whose length is 12 inches and width is 5 inches.</p> <p><b>16</b></p>	<p>Write a rational number that is between <math>\frac{1}{4}</math> and <math>\frac{1}{3}</math>.</p> <p><b>17</b></p>	<p>What is the greatest common factor of 108, 81, 162 , 216?</p> <p><b>18</b></p>	<p>Express each ratio in simplest form. <math>8:4/5</math></p> <p><b>19</b></p>	<p>Find the Better buy: 3 cans for \$4 or 4 cans for \$5.50.</p> <p><b>20</b></p>	<p>Write two different proportions using this set of numbers \$1.80, \$1.20, 14,21</p> <p><b>21</b></p>	
<p>What percent of 10 is <math>\frac{1}{5}</math></p> <p><b>23</b></p>	<p>An amount increased from 40 to 45. Find the Percent increas</p> <p><b>24</b></p>	<p>An antique car dealer made a profit of 15% on a car that cost \$60,000. For how much did he sell the car?</p> <p><b>25</b></p>	<p>Find tip and total cost of \$65 dinner with 18% tip.</p> <p><b>26</b></p>	<p>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?.</p> <p><b>27</b></p>	<p><math>(-72x^6y^3z^2) / (8x^5yz^2)</math></p> <p><b>28</b></p>	
<p>Solve: <math>14 - 5(p+3) = -16</math></p> <p><b>30</b></p>	<p>Remove a number from the following set so the mean is 20: 25,23,12,10,20</p> <p><b>31</b></p>					