

2018 Summer Math Assignment

Dear Parents:

Through the years many parents have asked what can be done over the summer to maintain skills and develop mathematical thinking. This summer, we will be using a calendar to help your child retain his/her skills and to provide valuable practice over the summer. You should feel free to discuss the work with your child. Math discussions are an important way for students to remember and retain concepts. Students may enjoy working with peers or parents as they practice. Again, this calendar is simply an opportunity for your child to maintain skills.

A few things to note:

- Our goal is to have students experience doing math over the summer.
- Teachers hope that everyone attempts the calendar.
- Calendars will not be graded.
- There is no penalty for not doing the calendar.
- Students may get help from sibling, parent, etc.
- If a student doesn't know how to do a certain problem, it's OK to skip it and move on to another problem.
- It is OK to use extra paper if more space is needed to work out the problems.

Incoming 7th & 8th Graders:

**Would you rather do your summer work on the computer?
Work on Khan Academy!**

In the middle school we use a web-based program called Khan Academy to help students with math problems. All of our current Winston middle school students are familiar with the program. Students can do either the calendar problems, the recommendations from Kahn Academy or both.

Recommended Khan Academy by class:

- **7th Grade:** Arithmetic, Basic Geometry, 6th Grade, or 5th Grade Missions, 7th Grade Mission Foundations (get ready for next year!)
- **8th Grade:** Pre-algebra, Arithmetic, Basic Geometry, 7th Grade, or 6th Grade Missions, 8th Grade Mission Foundations (get ready for next year!)

See the next page for some ideas of activities you can do every day with your child!

2018 Summer Math Assignment

Sharing Math in Everyday Life

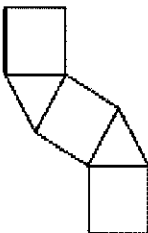
- **Budget:** Share the budget (household, food, clothing, phone, vacation, etc.) with your child.
- **Banking:** Explain and share interest rates with your child.
- **Grocery Shopping**
 - Have your child estimate the total bill.
 - Share any money-saving techniques with your child (coupons, percent discounts, etc.).
 - Have your child compare unit prices to find the better deal.
- **Purchasing Gasoline:** Have your child predict the cost of gasoline and how far you can travel on one full tank based on your car's mileage.
- **Going on Vacation**
 - **Car:** Before the vacation, ask your child to predict how long the drive will take based on an average speed of 60 miles per hour (no more "are we there yet!").
 - **Airplane, Bus, Train:** Have your student practice elapsed time (time of arrival versus time of departure).
 - **Going out to Eat:** Have your child help figure out the tip.
- **Baking:** Have your child follow a recipe (dividing a recipe in half practices fraction operations).
- **Construction Project:** Have your child help you plan and measure prior to construction.
- **Sports:** Share sport statistics with our child (shooting percentages, golf scores, baseball averages, etc.)

Thank you for your support. We are looking forward to an exciting and enriching year with your child.

Sincerely,

The Winston Middle School Math Teachers

July 2018 Entering Seventh Grade Mathematics Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	<p>What is the prime factorization of 32?</p>	<p>Some kids like to ride their bikes to and from school. Let d be the distance in miles from a kid's home to school. Write 2 expressions to represent how far a kid travels by bike in 4 weeks.</p>	<p>Try a new activity at http://figurethis.nctm.org/ Challenge yourself. What did you choose to do?</p>	<p>List all the factors of 48. List all the factors of 64. What are the common factors of 48 and 64? What is the greatest common factor of 48 and 64?</p>	<p>Write an expression to represent the situation. The skating rink charges \$100 to reserve and then \$5 per person. Write an expression to represent the cost for any number of people.</p>	
	<p>The temperature is -28°F in Anchorage, Alaska and 65°F in Miami, Florida. How many degrees warmer is it in Miami than in Anchorage?</p>	<p>Seth wants to buy a new skateboard that costs \$169. He has \$88. If he earns \$7.25 an hour pulling weeds, how many hours will he have to work to earn the rest of the money needed?</p>	<p>Lin rode a bike 20 miles in 150 minutes. If she rode at a constant speed, how far did she ride in 15 minutes? How long did it take her to ride 6 miles? How fast did she ride in miles per hour?</p>	<p>If the mean, median, and mode are all equal for the following set, what is the value of x?</p> <p style="text-align: center;">{3, 4, 5, 8, x}</p>	<p>Alisa had $\frac{1}{2}$ liter of juice in a bottle. She drank $\frac{3}{8}$ liters of juice. What fraction of the juice in the bottle did Alisa drink?</p>	
	<p>Look up a math topic and read about the history. Who discovered it? How was it used? Ex. pi, gallons, metric...</p>	<p>Try "Beataic" at http://mathforum.org/k12/mathtips/beataic.html</p>	<p>What is the smallest number that is divisible by 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10? How do you know?</p>	<p>Mia walks her dog twice a day. Her evening walk is two and a half times as far as her morning walk. At the end of the week she says she walked her dog 30 miles. How long is her morning walk?</p>	<p>Find two numbers that have 2, 3, and 5 as factors.</p>	
	<p>The temperature in Alaska was 23 degrees below zero and in Maine was 14 degrees below zero. Ben wrote <i>Maine was colder</i> because $-14 < -23$. Is Ben correct? Explain your answer.</p>	<p>At Books Unlimited, 3 paperback books cost \$18. What would 7 books cost? How many books could be purchased with \$54?</p>	<p>Will this net form a triangular prism?</p> 	<p>In trail mix, the ratio of cups of peanuts to cups of chocolate candies is 3 to 2. How many cups of chocolate candies would be needed for 9 cups of peanuts?</p>	<p>Denver's elevation is 5280 feet above sea level. Death Valley's is -282 feet. Is Death Valley located above or below sea level? Explain. How many feet higher is Denver than Death Valley?</p>	

August 2018 Entering Seventh Grade Mathematics Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	<p>Amy has a fish tank that is a rectangular prism, 20 cm by 20 cm by 16 cm. What is the volume of the tank? If Amy only fills the tank $\frac{3}{4}$ of the way, what will be the volume of the water in the tank?</p>	<p>Read Guinness Book of Records by Time Inc. http://www.guinnessworldrecords.com/</p> <p>What record surprised you the most? Why?</p>	<p>Alexis is painting 4 exterior walls of a rectangular barn. The length is 80 feet, width is 50 feet, and height is 30 feet. The paint costs \$28 per gallon, and each gallon covers 420 sq. feet. How much will it cost? Explain.</p>	<p>The Patriots beat the Giants in a football game. The sum of their scores was 44. The difference of their scores was 20. How many points did the Patriots score?</p>	<p>Choose an activity at Math Illuminations http://illuminations.net.org/</p>	
	<p>Visit the website http://nhm.usu.edu/en/nav/category_9_3_1_2.html</p> <p>Challenge yourself with fun activities!</p>	<p>Play Sudoku from the Newspaper or a website. How did logic help you to solve the puzzle?</p>	<p>The average of six numbers is 4. A seventh is added and the new average is 5. Find the seventh number.</p>	<p>Sophia's dad paid \$43.25 for 12.5 gallons of gas. What is the cost of one gallon of gas?</p>	<p>Bryan sells candy bars at 4 for 50¢. How many candy bars must Bryan sell in order to make \$5.00?</p>	
	<p>Are $3(3x - y)$ and $12(x - 4y)$ equivalent expressions? Why or why not?</p>	<p>Visit the website: Nich.maths.org</p> <p>Play a game.</p>	<p>The lowest temperature ever recorded on earth was -89°C in Antarctica. The average temperature on Mars is about -55°C. Which is warmer? Write an inequality to support your answer.</p>	<p>What is the largest possible area (in square inches) for a rectangle with a perimeter of 120 inches?</p>	<p>If Terri swam 3 laps in 2.5 minutes, how long would it take her to swim 20 laps at the same rate?</p>	
	<p>What is a real life example of: $\frac{3}{4} \div \frac{1}{2} =$</p>	<p>What is the smallest three-digit number that is divisible by exactly three different prime numbers?</p>	<p>Given an expression such as $3x + 2y$, find the value of the expression when x is equal to 4 and y is equal to 2.4.</p>	<p>What is the value of A, B, C, and D if they are each a different digit?</p> $\begin{array}{r} A\ B\ C\ D \\ D\ C\ B\ A \\ \hline x \\ 4 \end{array}$	<p>Find the sum of the first ten prime numbers.</p>	