

Summer Math Work

Dear Students,

It is very important to keep your math skills sharp over the summer months. Believe me, I know how important a brain break is and I really want you to enjoy your summer! I have planned this summer packet to be a short and approachable refresher that will ensure you are ready for math class when you return in the fall.

I suggest that you create a routine for yourself to make this packet very simple to complete before school starts. Each day, after breakfast, do one problem—that's it, just one! Keep that up each Monday through Friday over summer and you will be done when you get back to school!

If you like, you could set one day a week to complete five problems. Again, that would keep you on track to complete the packet before you return to school.

You are welcome to turn the math packet in at Meet the Teacher Day, on the first day of school, or by Wednesday, September 4. The packet is due no later than Wednesday, September 4. This will count as a quiz grade.

I have included some online resources to help you if you get stuck, as well as a checklist of math skills that you need to know for next year's class. Above all, make sure your multiplication facts are memorized! 😊

Have a wonderful summer and know that I will be very excited to see you next school year!

In Christ,
Mrs. Federmeier

Are You Ready for 8th Grade Math?

- ☐ I can use mental math strategies to add, subtract, multiply, and estimate solutions.
- ☐ I can add, subtract, multiply, and divide integers (positives and negatives).
- ☐ I can convert fractions to decimals with long division.
- ☐ I can add, subtract, multiply, and divide fractions.
- ☐ I can add, subtract, multiply, and divide decimals.
- ☐ I can use order of operations including exponents and parentheses.
- ☐ I can solve two-step equations.
- ☐ I can graph simple two-variable equations.
- ☐ I can translate words into algebraic expressions.
- ☐ I can calculate the volume of prisms.
- ☐ I can find areas of polygons and circles.
- ☐ I can find missing angle measures involving supplementary and vertical angles.

Do Need Math Help at Home?

There are a variety of online resources to turn to for math help.

Here are some favorites:

Khan Academy—khanacademy.org

Cliffs Notes—cliffsnotes.com


Art of Problem Solving—artofproblemsolving.com

Math with Mr. J— www.youtube.com/@MathwithMrJ


Also recommended for extended help and practice are paid subscriptions:

IXL—<https://www.ixl.com/>

First in Math—firstinmath.com

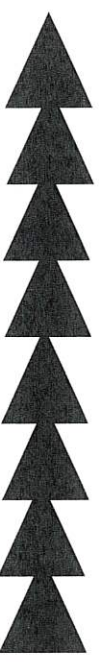


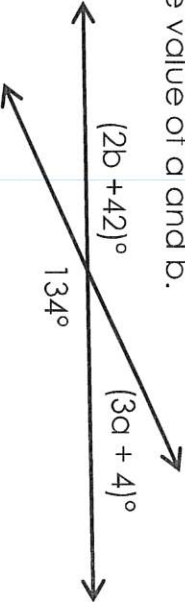
Incoming 8th Grade Summer Math Calendar





WEEK 1



Problem	Work & Answer
<p>Give the sum or difference:</p> <p>a.) $8 - 15$ b.) $-8 - 15$</p> <p>c.) $-8 + 15$ d.) $-8 + (-15)$</p>	
<p>Find the value of a and b.</p> 	
<p>Simplify each expression by combining like terms.</p> <p>a.) $11x - 7 - 3x + 4$</p> <p>b.) $21a + (-18b) - 6a + 11b$</p> <p>c.) $-7w + 2w - 12w - w$</p>	
<p>Find the width of a rectangular prism if the volume is 546cm^3, the height is 7cm and the length is 13cm.</p>	
<p>It takes Billy fifteen minutes to complete $\frac{1}{8}$ of a recipe. At this rate how long will it take for him to complete the recipe?</p>	



WEEK 2



Problem

Work & Answer

Solve for each variable.

a.) $\frac{w}{-12} = 3$

b.) $\frac{3}{4}x = -24$

c.) $36 = y + 14$

Simplify each expression:

a.) $-72 \div 8 + (-6) - 2$

b.) $-4 + (-32) \div (-4 \cdot 4)$

A convenience store company would like to know what flavor slushy children ages 8 through 11 prefer. The company decides to ask students in grades 3rd through 5th at Lincoln Elementary school. Identify which group is the population and which is the sample.

_____ Students in grades 3-5 at Lincoln school
_____ Children ages 8 through 11

Nancy sold a house for \$225,900 and earned 4% commission. How much did Nancy earn for the sale of this house?

Complete the table that shows a proportional relationship between the amount of small boxes of popcorn and candy sold at a movie theater.

Candy (small boxes)	Popcorn (small boxes)
	24
12	96
48	
	528



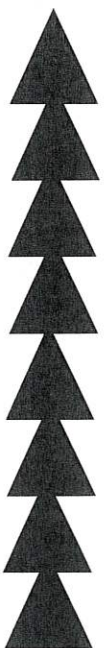
WEEK 3



Problem	Work & Answer
Trail mix made for three people uses 3 cups of almonds, 1 cup of raisins and $\frac{1}{3}$ cup of chocolate chips. If the same ratio of ingredients is used for twelve people, how much of each ingredient is needed?	
Expand each expression using the distributive property. a.) $2(5x - 3)$ b.) $-4(2a + 6b - 7)$ c.) $8(-3m + 2n) + 12$	
Find each product. a.) -7×6 b.) -6×-7 c.) -7×-6 d.) -6×7	
When Sarah invests \$4000 in a money market account she receives 1.4% simple interest annually. If she doesn't add or subtract any money how much interest will she earn after 4 years?	
A bag of jelly beans contains 6 red, 4 orange, 5 pink, 3 green and 2 white jelly beans. What is the probability of choosing the following at random? a.) 1 Pink jelly bean b.) 1 Red jelly bean c.) Either 1 white or green jelly bean	



WEEK 4



Problem

Work & Answer

Anna earned \$9 an hour babysitting. She wants to buy a 16 GB iPod that is \$120. Anna has saved \$45 so far. How many more hours of babysitting does she need to do to earn the rest to purchase the iPod?

Solve each inequality.

a.) $x + 4 < 16$

b.) $-2 > x + 3$

c.) $\frac{1}{2}(x + 4) \leq 14$

Simplify each complex fraction.

a.) $\frac{2\frac{1}{4}}{1\frac{1}{8}}$ b.) $\frac{7\frac{1}{3}}{4}$

An item is marked down by 25%. What percentage of the original cost will you pay?

Find a new perimeter and area if the shape is enlarged by a scale factor of two.

5.5 cm



3.25cm



WEEK 5



Problem

Write the property that best matches the following:

a.) $13 + -13 = 0$

b.) $(-12) + 16 = 16 + (-12)$

Find the diameter of a circle if the area is 153.86m^2 . Use 3.14 for pi.

Write an expression to show the total cost of an item x with a 35% discount.

Joe and two friends are going to a concert. The total cost is \$186. If there is a \$24 service fee, write and solve an equation to find out how much one ticket is.

A rectangular pyramid is sliced by a plane parallel to its base. What shape is shown from the cross section?

Work & Answer



WEEK 6



Problem

Four friends equally share the cost of their dinner that was \$64 plus a 20% tip. If each person contributes \$19, will that be enough to cover the bill with tip? Explain.

Solve the following:

a.) $\frac{-24}{3}$ b.) $\frac{-36}{-4}$

People in two sample groups were asked to identify their favorite kind of pizza. Study the results and circle a generalization.

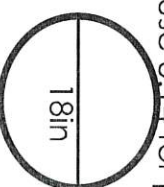
Sample Group	Cheese	Sausage	Pepperoni	Veggie	Total
A	30	45	7	18	100
B	48	24	15	13	100

Factor each by using the GCF.

a.) $36x + 81$ b.) $24a + 36$

Find the following based on the circle. Use 3.14 for pi.

- a.) The area of the circle
b.) The circumference of the circle



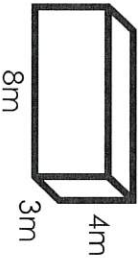
Work & Answer

- a.) Cheese is the most popular in each group.
b.) Overall cheese and sausage are most preferred.
c.) Sausage is always the favorite.



WEEK 7

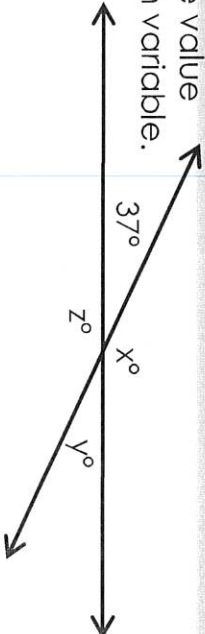


Problem	Work & Answer
<p>Circle which has the same value as the following:</p> <p>$-6 + (-9 + 14)$</p>	<p>a.) $(-6 + 9) - 14$ b.) $(6 - 9) + 14$ c.) $(-6 + -9) + 14$</p>
<p>Find the surface area of the given prism:</p> 	
<p>The asking price on a house was \$350,000. Because it was on the market for six months it was finally sold for \$297,500. What percentage of the original price was it sold for?</p>	
<p>Solve each inequality.</p> <p>a.) $3x < -24$ b.) $14 \leq -7x$ c.) $4x - 8 > -40$</p>	
<p>Divide. Write the answer in simplest form.</p> <p>$-2\frac{1}{3} \div 1\frac{1}{12}$</p>	



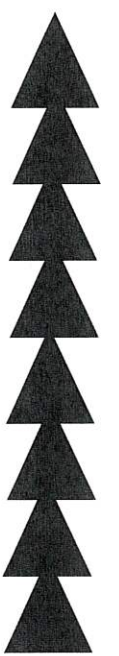
WEEK 8



Problem	Work & Answer
<p>A playing card is chosen at random from a standard deck of cards. What is the probability of choosing the following:</p> <p>a.) P(5 of Diamonds) b.) P(One Jack)</p>	<p>a.) P(5 of Diamonds) = b.) P(One Jack) =</p>
<p>Simplify each expression.</p> <p>a.) $-13 + 25 - 36 + -2$</p> <p>b.) $-54 \div 9 \times -7 \div 6$</p>	
<p>Find the value of each variable.</p> 	
<p>Sam sells cars and earns 3.5% commission in sales. In one day he sold 3 of the same cars each for \$21,500. How much commission did Sam earn for the day?</p>	
<p>It takes Amy 8 minutes to mow 1/6 of her backyard. At that rate how many more minutes will it take her to finish mowing her backyard?</p>	



WEEK 9



Problem	Work & Answer
<p>Simplify each expression.</p> <p>a.) $-7 + 13 + 5(-6 + 8)$</p> <p>b.) $3x - 4(x + 2y) + 17y$</p>	
<p>A recipe for fluffy slime calls for $3\frac{3}{4}$ cups of shaving cream, $\frac{1}{2}$ cup of glue, $\frac{1}{2}$ teaspoon of baking soda and $1\frac{1}{2}$ tablespoons of saline solution; this is enough for 2 people. How much shaving cream would you need if you were making enough slime for ten people?</p>	
<p>The cost of a sweatshirt was on sale for \$18. Find the percent of decrease if the sweatshirt was originally \$25.</p>	
<p>Solve each inequality and graph the solution on a number line.</p> <p>a.) $-12a + 7 \leq 31$</p> <p>b.) $-9 > 3b + 6$</p>	
<p>A triangular pyramid is sliced by a plane perpendicular to its base.</p> <p>Draw the cross section.</p>	

WEEK 10

Problem

Work & Answer

Find the circumference of the circle below.

Use $\frac{22}{7}$ for pi.



Anna is wrapping a birthday gift for her brother and has one large piece of wrapping paper left. The size of the paper is 6 feet by 4 feet. Will she have enough paper to cover a box that is 12in x 6in x 4in?

Simplify the complex fractions.

a.) $\frac{8\frac{2}{5}}{6}$

b.) $\frac{3\frac{1}{3}}{2\frac{4}{9}}$

Solve each equation below.

a.) $5x + 8 = 53$ b.) $-6w - 12 = 51$ c.) $\frac{y}{4} + 12 = -8$

Find the sum of each below. Describe how you know what the sign of your answer will be.

a.) $-19 + 8$

b.) $-6 + (-5)$

