Holy Child Jesus Catholic Academy
Incoming 8th graders- Summer Work 2024

Dear Incoming 8th graders,

Attached you will find your summer packet for Mathematics to brush up on your skills and prepare you for the work ahead in 8th grade. The packet is broken up into 9 weeks- with 5 questions per week.

Take your time and **show ALL work**. Use the space provided on each page to show work and if you use extra scrap paper, please attach it to the final packet. All final answers should be boxed or circled.

All math packets will be collected on the first day of school in September to be **graded**.

I hope you have a wonderful summer and I look forward to our Math journey together in September!
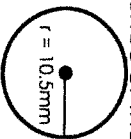
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MATH

Sincerely,
Mrs. Beaudry

Incoming 8th Grade Summer Math Calendar

Problem	Work & Answer
Give the sum or difference: a.) 8 – 15 b.) -8 – 15 c.) -8 + 15 d.) -8 + (-15)	
Find the circumference of the circle below. r = 10.5mm	
Simplify each expression by combining like terms. a.) 11x – 7 – 3x + 4 b.) 21a + (-18b) – 6a + 11b c.) -7w + 2w – 12w – w	
Find the width of a rectangular prism if the volume is 546cm³, the height is 7cm and the length is 13cm.	
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?	

WEEK 2

Problem	Work & Answer
Solve for each variable. a.) $\dfrac{w}{-12} = 3$ b.) $\dfrac{3}{4}x = -24$ 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.	<table><tr><td>Candy (small boxes)</td><td>Popcorn (small boxes)</td></tr><tr><td>12</td><td>24</td></tr><tr><td>48</td><td>96</td></tr><tr><td></td><td>528</td></tr></table>

Problem	Work & Answer
Trail mix made for three people uses 3 cups of almonds, 1 cup of raisins and 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	

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.) $\dfrac{2\frac{1}{4}}{1\frac{1}{8}}$ b.) $\dfrac{7\frac{1}{3}}{4}$	
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	Work & Answer
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 153.86m². 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.	
Solve each equation below. a.) $5x + 8 = 53$ b.) $-6w - 12 = 51$ c.) $\frac{y}{4} + 12 = 8$	

▼▼▼▼▼▼ WEEK 6 ▲▲▲▲▲▲

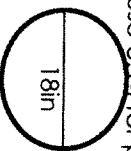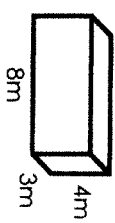| Problem	Work & Answer
Four friends equally share the cost of their dinner that was $64 plus a 20% tip. If each person contributes $19, will that be enough to cover the bill with tip? Explain.	
Solve the following: a.) $\dfrac{-24}{3}$ b.) $\dfrac{-36}{-4}$	
People in two sample groups were asked to identify their favorite kind of pizza. Study the results and circle a generalization. <table><tr><th>Sample Group</th><th>Cheese</th><th>Sausage</th><th>Pepperoni</th><th>Veggie</th><th>Total</th></tr><tr><td>A</td><td>30</td><td>45</td><td>7</td><td>18</td><td>100</td></tr><tr><td>B</td><td>48</td><td>24</td><td>15</td><td>13</td><td>100</td></tr></table>	a.) Cheese is the most popular in each group. b.) Overall cheese and sausage are most preferred. c.) Sausage is always the favorite.
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 (circle labeled 18in)	

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Problem	Work & Answer
Circle which has the same value as the following: -6 + (-9 + 14)	a.) (-6 + 9) - 14 b.) (6 - 9) + 14 c.) (-6 + -9) + 14
Find the surface area of the given prism: 8m 4m 3m	
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?	
Solve each inequality. a.) 3x < -24 b.) 14 ≤ -7x c.) 4x - 8 > -40	
Divide. Write the answer in simplest form. $-2\dfrac{1}{3} \div 1\dfrac{1}{12}$	

WEEK 8

Problem	Work & Answer
A playing card is chosen at random from a standard deck of cards. What is the probability of choosing the following: a.) P(5 of Diamonds) b.) P(One Jack)	a.) P(5 of Diamonds) = b.) P(One Jack)=
Simplify each expression. a.) -13 + 25 − 36 ÷ 2 b.) -54 ÷ 9 x -7 ÷ 6	
Find the sum of each below. Describe how you know what the sign of your answer will be. a.) -19 + 8 b.) -6 +(-5)	
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?	
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?	

WEEK 9

Problem	Work & Answer
Simplify each expression. a.) $-7 + 13 + 5(-6 + 8)$ b.) $3x - 4(x + 2y) + 17y$	
A recipe for fluffy slime calls for 3¾ cups of shaving cream, ½ cup of glue, ½ teaspoon of baking soda and 1½ 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?	
The cost of a sweatshirt was on sale for $18. Find the percent of decrease if the sweatshirt was originally $25.	
Solve each inequality and graph the solution on a number line. a.) $-12a + 7 \leq 31$ b.) $-9 > 3b + 6$	
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?	