SAINT JOHN PAUL II CATHOLIC ACADEMY

Entering Grade 8 Summer Math

Saint John Paul II
MATH Summer Packet – Entering Grade 8

In Grade 7 You Learned To:

Ratios and Proportional Relationships

- Analyze proportional relationships and use them to solve real-world and mathematical problems.

The Number System

- Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Expressions and Equations

- Use properties of operations to generate equivalent expressions.
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Geometry

- Draw, construct and describe geometrical figures and describe the relationships between them.
- Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

Statistics and Probability

- Use random sampling to draw inferences about a population.
- Draw informal comparative inferences about two populations.
- Investigate chance processes and develop, use, and evaluate probability models.

Saint John Paul II
MATH Summer Packet – Entering Grade 8

Monday	Tuesday	Wednesday	Thursday	Friday
Evaluate each expression for n=2, m=3, and t=5 3t – 4n = 13- (m+n) = 4.7 + mt = **Compare. Write <, =, or >** -7 ___7 32 ___(-32) (-9) ___-3 (-8)___ (-6)	**Simplify each expression** -6 + 4 = 15 – (-8)= -4 + (-5) = **Solve each equation** X – 6 = -15 1.5 = m – 3.2 -12 = m + 8	**Read and complete…** A teacher asks 15 students to estimate an answer to a question. The answers are 1, 5, 5, 6, 7, 8, 10, 12. The correct estimate is 7. The teacher wants to calculate how far off the estimates were by finding the absolute value of the difference between each estimate and the answer. Which estimate was off by the most? Drew sold lemonade and apples at the school fair. He sold a total of $64. If he sold $21 in lemonade, how many dollars worth of apples did he sell?	**Use the Distributive Property to find each total cost.** 3 loaves of bread at $1.99 each 4 bags of berries at $1.98 each 6 cans of tuna at $.97 each 5 boxes of rice at $2.95	**Write and solve an equation for each situation.** Nina buys lunch for herself and her sister. She pays $7.50. Nina has $5.25 left over. How much money did she begin with? A group of twelve volunteers raises $144 for three charities. Each charity gets the same amount. How much does each charity get?

Saint John Paul II
MATH Summer Packet – Entering Grade 8

Monday	Tuesday	Wednesday	Thursday	Friday
Find the GCF of each pair of numbers using prime factorization. 9, 33 22, 121 7, 15 17, 51 6, 24	**Write each fraction in simplest form.** 20/25 -9/42 7/77 36/63 40/48	**Write each decimal as a mixed number or fraction in simplest form.** 0.45 12.2 8.6	**Convert each improper fraction into a mixed number** $\frac{18}{7}$ $\frac{27}{8}$ $\frac{100}{7}$	**Word Problems** Two frogs hop around a circular track that is 60 inches around. First the larger frog jumps 13 in. and then the smaller frog jumps 11 in. If they take turns jumping, how many inches from the start will they be when they once again are at the same point?

Saint John Paul II
MATH Summer Packet – Entering Grade 8

Monday	Tuesday	Wednesday	Thursday	Friday
Word problems Each week, Joey gets paid $10 plus $2 for each chore that he does. His sister Julie gets paid $5 plus $3 per chore Write an expression for how much their parents pay Joey and Julie each week if they do the same amount of chores If Joey and Julie do 5 chores, how much do they get paid individually? How much do their Parents pay all together?	**Complete** 7(6 + y) =(__ x 6) + (7 x __) (3 x z) + (__ x 4) = 3(__ +__) **Multiply each expression** 12(2 + 3x) 5(x – 5) 2(6x + 5) 10(x – 6)	**Solve** 3a < 15 b + 12 ≤ 19 15 > 3y x + 6 < 9	**Suppose you toss a coin twice. Find each probability.** *P* (no heads) *P* (exactly one head) *P* (at least one head)	**Write the decimal as a percent** 0.46 0.37 0.17 8.10 0.3

Saint John Paul II
MATH Summer Packet – Entering Grade 8

Monday	Tuesday	Wednesday	Thursday	Friday
Solve each equation 6n + 3 = 21 -10 = 2 + 6w 5d + 10 = 25 7g + 3 = 10	**Define the following terms;** Exponent: Equivalent Fractions: Parallelogram: Common factor:	**Define the following terms;** Congruent: Area: Bar graph: Average:	**Define the following terms;** Radius: Expression: Factor: Formula:	**Define the following terms;** Divisor: Degree: Median: Mass:

Saint John Paul II
MATH Summer Packet – Entering Grade 8

Monday	Tuesday	Wednesday	Thursday	Friday
What is the value of $(5 + 3)^2 + (5 - 3)^2$? ○ 68 ○ 70 ○ 72 ○ 77 What is the value of the expression: $2^2 - 3^2 + 4^2$ ○ 6 ○ 8 ○ 11 ○ 14 Which group does not contain equivalent fractions, decimals and percents? ○ 10%, 1/10, 0.1 ○ 40%, 2/5, 0.4 ○ 50%, 1/2, 0.5 ○ 25%, 1/4, 0.2	Question 4: If it takes a company 4 hours to build 1,300 cell phones, at the same rate it will take the company _____ Hours to build 39,000 cell phones. The right triangle in the figure below has AC = 13 and BC = 5. What is the length of side AB? ○ 17 ○ 9 ○ 12 ○ 10	**Find each sum or difference.** -8 + 13 = -77 + (-46) = 50 – 82 = 11 + (-19) = 12 – 34 =	**Complete ….** 5 x 5 = 7x 9 = 9x 7 = 10 x 14 = 22 x 20 = 25 x8 = 66 x 9 = 33 x 6 = 74 x 34 = 17 x 8 = 11 x 5 =	**Complete ….** 48 x 5 = 38 x 9 = 69 x 7 = 15 x 14 = 333 x 20 = 587 x 22 = 784 x 9 = 31 x 9 = 774 x 3 = 521 x 8 = 369 x 5 =

Saint John Paul II
MATH Summer Packet – Entering Grade 8

Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
Use the percent proportion to find each number. 50 % of what number is 31? What number is 110% of 51? Find 8% of 95.	**Find each product or quotient. Write in simplest form.** 2/5 x 5/9 = 7/8 x 2 = 4/5 x 1/5 =	**Find the area for base *b* and height *h* of each triangle** b = 4 in h = 6 in b = 4 cm h = 5 cm b = 2.5 ft h = 6.2 ft	**Our coin is randomly selected from a jar containing 20 pennies, 15 nickels, 3 dimes, and 12 quarters. Find the odds of each outcome. Write in simplest form.** A dime A value less than $0.25 A value greater than $0.10 A value less than $0.03	**Find the mean, median and the mode for each set of data.** (99, 88, 88, 92, 100) (30, 22, 38, 41, 33, 41, 30, 24)

Saint John Paul II
MATH Summer Packet – Entering Grade 8

Monday	Tuesday	Wednesday	Thursday	Friday
Evaluate each expression. 35 – 3 + 8 = 29 – 3 (9 – 4)=	**Write a verbal expression for each algebraic expression.** 14 – 9 C	**Find the value of each expression.** 5.65 – 3.08 = 1 1/12 + 3 2/3 = 4.85 (2.72) =	**Name the property used in each step.** 2 x 3 + (4 x 2 – 8) = 2 x 3 + (8 -8) _____ = 2 x 3 + (0) _____ = 6 + 0 _____	Complete …. 648 x 15 = 398 x 29 = 369 x 7 = 1551 x 14 =

Saint John Paul II
MATH Summer Packet – Entering Grade 8

Monday	Tuesday	Wednesday	Thursday	Friday
Find the value of x. Then name the property used. 8 = 8 + x 10x = 10 X + 0 = 5 5 + 1/5 = x	**Define…..** Line: Integers: Interval: Liter:	**Properties and Operations** Applying Properties Write the sum. Change the order of the addends. 2 + 5 = _____ + _____=_____ Using inverse operations Find the number that makes both sentences true. _____ x 6 = 42 Equations and Expressions Finding Missing Numbers 7 + 5 = 9 + _____ Solve Equations m + 41 = 95	**Complete…..** 432 x 6 = 657 x 14 = 951 x 2 = 258 x 12 = 352 x 9 = 32 x 8 =	**Complete…..** 123 x 7 = 914 x 14 = 224 x 20 = 652 x 32 = 78 x 8 = 33 x 5 =

Saint John Paul II
MATH Summer Packet – Entering Grade 8

Monday	Tuesday	Wednesday	Thursday	Friday
Simplify $2^3 \times 2 - 4^2$ $(3 - 2)^2 - 2^2$ $2^2 \times (2 - 4)^2$ $4^3 + 4 \div 4$	**Write an algebraic expression for each word phrase.** 13 less than a number *q* Number of day in *w* weeks	**Match each word phrase with an expression.** There are two fewer guests. _____ There are half as many ears. _____ There are two more books. _____ **a.** m + 2 **b**. n divided by 2 **c.** p - 2	**Write <, > , or =** (-12) ____ (12) (-19) ____ (-7) (3) _____ (-4) (6) _____ (-9)	**Multiple Choice…..** Which integer is greater than -6 and less than -3? A. 4 B. -2 C. -5 D. -7 Kyle's family drove 40.8 miles east to visit his grandmother, and then 5.2 miles farther east to a restaurant. His family then drove west to return home. How many miles did his family travel in all? A. 46 C. 86.8 B. 81.6 D. 92

Saint John Paul II
MATH Summer Packet – Entering Grade 8

Monday	Tuesday	Wednesday	Thursday	Friday
Solve each equation $3x - 1 = 14$ $10 + 3n = 25$ $\frac{2}{3}n - 10 = 14$ $1.5 + a = 21$	**Complete…..** 662 x 6 = 314 x 4 = 523 x 2 = 256 x 5 = 111 x 7 = 374 x 9 =	**Complete…..** 987 x 5 = 654 x 14 = 369 x 2 = 258 x 12 = 147x 9 = 369 x 8 =	**Open – ended….** Write an integer that is greater than 10 and less than (-15).	**Writing in Math…..** Suppose *a* and *b* are integers, and (a) > (b). Must *a* be greater than *b*? Use examples to support your answer. _____ _____ _____ _____ _____ _____ _____ _____

Saint John Paul II
MATH Summer Packet – Entering Grade 8

Monday	Tuesday	Wednesday	Thursday	Friday
Describe the pattern for each sequence. Then find the next three terms 1, 2, 4, 8, __, __, __ $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}$, ___, ___, ___ -2, 4, -8, -16, ___, ___, ____ 600, -300, 150, ___, ___, ___	**Number Sense….** Which is greater. -5 (x) or 5 (-x)?	**Write an algebraic expression for each phrase.** The product of -3 and a number s A number v divided by 12 The sum of 4 and a number f	**Simplify each expression** (-304) (15) 2 x (8) 6 –(-3)	**Evaluate each expression for the given values.** 3 (c) for c = -3.5 (f x g) for f = and g = 7