

7TH GRADE SUMMER MATH PACKET

Dear Rising Seventh Graders,

This summer, I encourage you to continue to foster a belief in the importance and enjoyment of mathematics at home. Being actively involved in mathematical activities enhances learning. In preparation for the 2025-2026 school year, you are required to complete a summer math review packet. Your packet focuses on the concepts and skills necessary for your success in 7th Grade Math.

The topics within this packet are important foundational concepts. ***READ THE INSTRUCTIONS.*** Even if it doesn't say "Show Your Work" at the top of the page, you are expected to show your work on all pages. If you need extra space, you must use and attach scratch paper to the packet.

Please bring your completed math packet (with scratch work attached if needed) on the first day of school in August. Your 7th Grade Math teacher will be collecting them, and the packets will be graded for timeliness and thoroughness of completion.

You may always email me if you have questions or need help on any pages: czlaket@stmichael.net.

Happy Summer! I'm so proud of all your hard work!

– Miss Z

Name: _____

Date: _____ Class: _____

Identifying Ratios

Directions: Use the following shapes to write ratios that represents the situation.

Write the ratio of clovers to flowers.



Write the ratio of shooting star to hearts.



Write the ratio of envelopes to phones.



Write the ratio of spirals to sparkling hearts.



Write the ratio of pencils to post its.



Write the ratio of light bulbs to lighting bolts.



Name: _____

Date: _____ Class: _____

Writing Ratios Into Words

Directions: Write a ratio out in words that can represent the ratios listed below. The first one is done for you.

2 : 24

For every 2 students, the school provides 24 pencils.

4 to 1

15 to 12

1 : 60

3 : 1

2 to 5

20 to 10

9 to 16

4 : 9

2 : 10

Equivalent Ratios

Name: _____

Date: _____ Class: _____

Directions: Are the following ratio pairs equivalent? Explain how you know.

2:12 and 4:12	4:12 and 3:1
8:6 and 4:2	6:4 and 15:10

Directions: Create at least two equivalent ratios for the following ratios.

4:7	6:4
5:2	3:8
9:2	2:7
1:6	3:11

Ratio Tables

Name: _____

Date: _____ Class: _____

Directions: Fill in the following ratio tables.

1	
3	9
	27
6	

	1
3	
9	6
	24

	3
	18
30	36
40	

0.5	
4	
14	28
	98

5	
	1
30	3
45	

	2
6	14
24	
	84

Name: _____

Percent, Decimal & Fraction Conversions

Date: _____ Class: _____

Directions: Fill in the chart below.

Percent	Decimal	Fraction
26%		
		$\frac{1}{10}$
	1.2	
		$\frac{3}{8}$
12.2%		
	12	

Name: _____

Date: _____ Class: _____

Solving Percent Problems

Directions: Solve the following problems. Show your work.

60% of 300

20% of 40

40% of 420

25% of 160

RJ wants to buy a new game for his switch which costs \$50. He has a 20% off coupon. How much does he pay?

Aaliyah has 8 yellow pencils which is 40% of the total amount of pencils she has. How many pencils does she have total?

Dividing Fractions by a Whole Number

Name: _____

Date: _____ Class: _____

Directions: Solve the following expressions.

$$\frac{1}{3} \div 5$$

$$\frac{2}{6} \div 2$$

$$\frac{3}{7} \div 12$$

$$\frac{3}{5} \div 5$$

$$\frac{5}{6} \div 3$$

$$\frac{10}{4} \div 8$$

$$\frac{3}{4} \div 9$$

$$\frac{14}{8} \div 4$$

Dividing a Whole Number by a Fraction

Name: _____

Date: _____ Class: _____

Directions: Solve the following expressions.

$$5 \div \frac{2}{3}$$

$$12 \div \frac{1}{5}$$

$$14 \div \frac{3}{7}$$

$$22 \div \frac{4}{3}$$

$$11 \div \frac{2}{5}$$

$$6 \div \frac{9}{10}$$

$$16 \div \frac{4}{9}$$

$$30 \div \frac{1}{3}$$

Dividing a Fraction by a Fraction

Name: _____

Date: _____ Class: _____

Directions: Solve the following expressions.

$$\frac{2}{5} \div \frac{2}{3}$$

$$\frac{7}{8} \div \frac{1}{4}$$

$$\frac{3}{5} \div \frac{1}{2}$$

$$\frac{5}{4} \div \frac{4}{3}$$

$$\frac{5}{4} \div \frac{2}{3}$$

$$\frac{3}{5} \div \frac{4}{10}$$

$$\frac{3}{4} \div \frac{1}{5}$$

$$\frac{2}{6} \div \frac{5}{3}$$

Dividing Fraction and Mixed Numbers

Name: _____

Date: _____ Class: _____

Directions: Solve the following expressions.

$$\frac{2}{5} \div 3\frac{1}{3}$$

$$4\frac{1}{3} \div \frac{1}{4}$$

$$3\frac{1}{5} \div \frac{1}{2}$$

$$\frac{3}{4} \div 1\frac{1}{3}$$

$$2\frac{1}{4} \div \frac{2}{5}$$

$$6\frac{3}{5} \div \frac{2}{3}$$

$$3\frac{3}{4} \div \frac{1}{6}$$

$$\frac{2}{8} \div 2\frac{2}{3}$$

Name: _____

Date: _____ Class: _____

Adding and Subtracting Decimals

Directions: Solve the following expressions.

$381.1 + 25.73$

$4.6 - 2.05$

$25.3 + 376.78$

$78.21 - 44.45$

$426.25 + 275.5$

$89.23 - 23.4$

$245.7 + 128.43$

$32.5 - 3.05$

$367.05 + 213.3$

$517.34 - 212.95$

Name: _____

Date: _____ Class: _____

Multiplying Fractions and Decimals

Directions: Solve the following expressions.

0.5×0.2

$\frac{1}{2} \times \frac{2}{3}$

0.25×0.4

$\frac{1}{4} \times \frac{3}{5}$

2.4×1.5

$2\frac{1}{5} \times 1\frac{1}{4}$

30.5×1.2

$12\frac{1}{6} \times 3\frac{2}{5}$

35.67×114.2

$1\frac{2}{7} \times 11\frac{2}{9}$

Dividing Multi Digit Numbers

Name: _____

Date: _____ Class: _____

Directions: Solve the following expressions.

$$51 \div 30$$

$$63 \div 22$$

$$431 \div 32$$

$$650 \div 32$$

$$576 \div 12$$

$$4,142 \div 19$$

$$5,652 \div 24$$

$$4,344 \div 15$$

Dividing Decimal Numbers

Name: _____

Date: _____ Class: _____

Directions: Solve the following expressions.

$25 \div 6.25$

$6.3 \div 1.5$

$90 \div 2.5$

$18.72 \div 3.6$

$17.36 \div 1.4$

$4.95 \div 0.03$

$150.2 \div 0.2$

$64.5 \div 1.5$

Least Common Multiple & Greatest Common Factor

Name: _____

Date: _____ Class: _____

Directions: Find the least common multiple of the numbers listed below.

12 and 18	20 and 50
4 and 30	36 and 24

Directions: Find the greatest common factor of the numbers listed below.

12 and 18	45 and 30
96 and 144	49 and 77

Opposite Numbers & Writing Integers

Name: _____

Date: _____ Class: _____

Directions: On the number lines below, graph the number given and its opposite.

3



-2



10



1.5



Directions: Write an integer that represents the following situation

A gain of 50 yards

A deposit of \$2,543.15

The temperature is 45 degrees below zero

Joe owes \$150.25

Finding Absolute Value

Name: _____

Date: _____ Class: _____

Directions: Find the absolute value of the following terms.

-4

25

-123

-67

$-8\frac{8}{9}$

7.95

$-4\frac{1}{2}$

Opposite of 19.5

Ordering Rational Numbers

Name: _____

Date: _____ Class: _____

Directions: Arrange the numbers in increasing order.

-10, -15, 13, 7, -20, 15

124, -130, 95, -132, 142

-7.25, -7.2, -7.02, -7.12

-0.5, -0.005, -5.0, -0.05, $|-0.05|$

$-\frac{1}{2}, \frac{1}{4}, -\frac{1}{3}, \frac{1}{3}, -\frac{1}{5}$

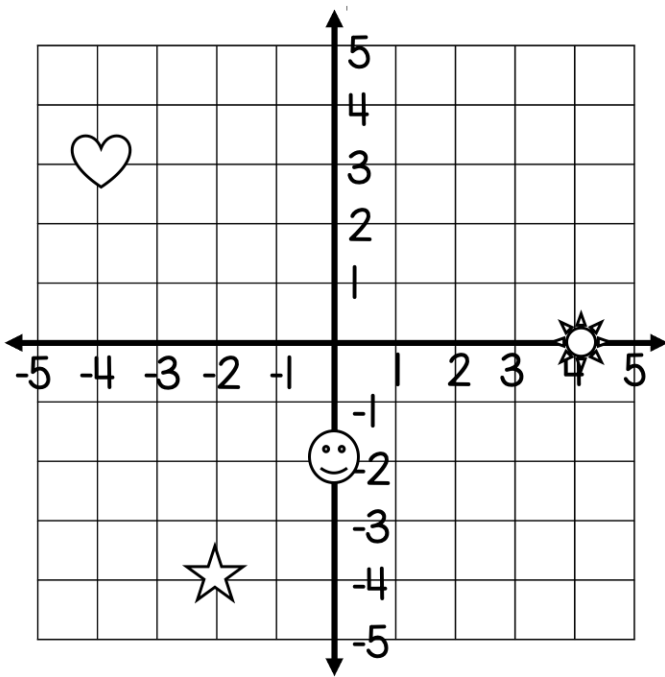
$-\frac{1}{2}, -0.75, -\frac{1}{3}, \frac{1}{3}, \left|-\frac{1}{5}\right|, \left|\frac{1}{2}\right|$

Graphing on a Coordinate Plane

Name: _____

Date: _____ Class: _____

Directions: Use the graph below to help you answer the questions.

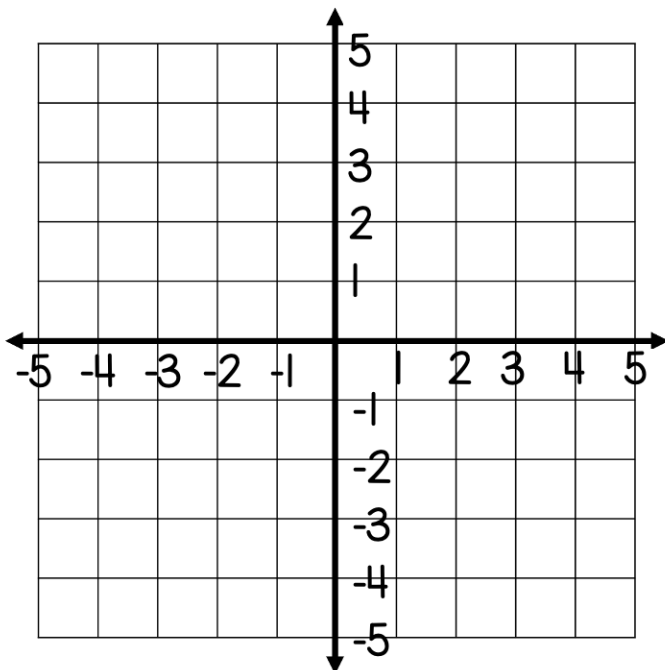


What is the coordinate point of the heart? _____

What is the coordinate point of the star? _____

What is the coordinate point of the smile? _____

What is the coordinate point of the sun? _____



Graph a smiley face at (0,-4).

Graph a star at (4,-3).

Graph a heart at (2,1).

Graph a sun at (3,0).

Evaluating Expressions with Order of Operations

Name: _____

Date: _____ Class: _____

Directions: Solve the following expressions.

$$3 + 4 \times 2$$

$$8 - 2 \times 3$$

$$48 \div 3 \times 4$$

$$15 - 4 \div 2$$

$$12 + (4 \times 4) \div 4$$

$$2 + 4^2 \times 3$$

$$4 + 6^2 \div 3 \times 2$$

$$(5 + 3^2) \div 7 \times 4.5$$

$$2 + (8^2 - 6)$$

$$2 \times (12 + 4 - 12 \div (8 - 2))$$

Equation Substitution

Name: _____

Date: _____ Class: _____

Directions: Evaluate the expressions below using the following values: $a=3$ $b=6$ $c=0.5$

$a \times b$	$a \cdot b \cdot c$
$\frac{bc}{a}$	$b - a + c^2$

Directions: Evaluate the expressions below using the following values: $x = \frac{1}{4}$ $y = \frac{1}{2}$ $z = 3$

xyz	$\frac{xy}{z}$
$y^2 + xz$	$z \cdot y - x$

Writing Expressions

Name: _____

Date: _____ Class: _____

Directions: Write an expression using letters and numbers that represents each problem below.

The sum of a and b

5 less than the quantity of 8 times x

6 times the square of k

Quotient when 12 minus f is divided by 2

The sum of w doubled and y tripled

The sum of m and n divided by 5

The difference of g to the power of three and 12

f minus the quotient of d divided by 2

Solving One Step Equations

Name: _____

Date: _____ Class: _____

Directions: Solve the following equations.

$$c + 9 = 15$$

$$24 = 8 + d$$

$$f - 5 = 7$$

$$20 = g - 9$$

$$4h = 13$$

$$2 = \frac{1}{2}j$$

$$\frac{k}{5} = 5$$

$$12 = \frac{m}{2}$$

$$18n = 72$$

$$125 = 46 + p$$

Name: _____

Factoring and Distributing Expressions

Date: _____ Class: _____

Directions: Use the greatest common factor to write an equivalent expression in factored form.

$2x + 8y$	$29xy + 5xy$
$12h + 6$	$2p + 2pq$

Directions: Use the distributive property to write an equivalent expression in expanded form.

$2(a + b)$	$\frac{1}{2}(2x + 4y)$
$3(5g + 2h)$	$a(5 + 6b)$

Solving and Graphing Inequalities

Name: _____

Date: _____ Class: _____

Directions: Solve the following inequalities then graph.

$$6g < 36$$



$$\frac{1}{4}h \leq 1.5$$



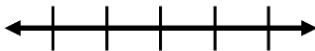
$$m - 5 \geq 12$$



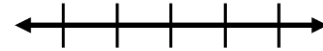
$$24 > 4k$$



$$60w < 2,400$$



$$24p \geq 144$$



$$k - 7 > 14$$



$$\frac{f}{4} \geq 4$$

