

Dear Parents of Rising Seventh Graders,

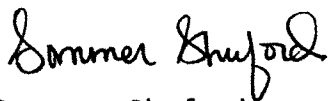
I am so excited to have the opportunity to teach your child next year! I've heard so many wonderful things about this sweet and smart class!

I've attached a math packet the students will need to complete this summer. This packet includes important concepts they will need to review in order to better prepare them for Pre-Algebra. Please have your child work on small portions of the packet throughout the summer. In order to receive full credit, they must SHOW ALL WORK on another sheet of paper! (I realize they will not need to show work on some problems.) I have included sample problems for the concepts included in the packet. Please have your child look at these sample problems if they have any questions. This packet is due on the first day of school – **August 6th, 2021**.

**Optional** - If your child is struggling with operations with integers, I've decided to use the Delta Math program to reinforce integer rules. The Pre-Algebra curriculum can be especially challenging if the students do not have a good understanding of integer rules. I can assure you they will feel more confident next school year if they know these integer rules. The students may work in Delta Math to practice operations with integers if they feel as though they need more practice. Please see Delta Math login instructions below.

If you or your child have additional questions, please don't hesitate to email me at [sshuford@bullochacademy.com](mailto:sshuford@bullochacademy.com). I look forward to seeing everyone in August! Have a wonderful summer! See Delta Math login instructions below.

Sincerely,



Sommer Shuford

**\*\* Instructions on how to create a Delta Math Account: (Please read carefully.)**

- 1) Go to [deltamath.com](http://deltamath.com)
- 2) Click Create Account at the top right of the webpage
- 3) Click Student and then enter my teacher code: 487477
- 4) Click the drop down box that says "Period" and choose your class period. (**Note: You will click Rising 7<sup>th</sup> Grade**)
- 5) Fill in your personal information and create a password – do not forget the password you created!:)

## Sample Problems

### Add/Subtract Fractions:

Get a common denominator and then add/subtract the numerators.

$$\begin{array}{r} \frac{2}{3} \cdot \frac{4}{4} = \frac{8}{12} \\ + \frac{1}{4} \cdot \frac{3}{3} = \frac{3}{12} \\ \hline \frac{11}{12} \end{array}$$

### Multiply/Divide Fractions:

\* Make mixed #'s improper fractions.

Ex: 1 -  $\frac{2}{5} \cdot \frac{3}{4} = \frac{6}{20} \div 2 = \frac{3}{10}$

Ex: 2 -  $2\frac{1}{5} \div 2\frac{1}{10} =$  multiply by the reciprocal  
 $\frac{11}{5} \cdot \frac{10}{21} = \frac{110}{105} = \frac{22}{21}$

### Add/Subtract Decimals -

\* Line up the decimals + then add/subtract.

Multiply Decimals - (do not line up decimals)

$$\begin{array}{r} 1.2 \rightarrow 1 \\ \times 3.4 \rightarrow 1 \\ \hline 48 \\ + 360 \\ \hline 408 \end{array}$$

2 #'s behind decimal

**4.08**

### Divide Decimals -

$$\begin{array}{r} 0.3 \overline{) 5.76} \\ \underline{3} \phantom{0} \\ 27 \\ \underline{27} \\ 06 \\ \underline{06} \\ 0 \end{array}$$

Rewrite as:

$$\begin{array}{r} 19.2 \\ 3 \overline{) 57.6} \\ \underline{3} \phantom{0} \\ 27 \\ \underline{27} \\ 06 \\ \underline{06} \\ 0 \end{array}$$

**19.2**

### Fraction $\rightarrow$ Decimal -

(Divide numerator by denominator.)

$$\frac{1}{4} = \begin{array}{r} .25 \\ 4 \overline{) 1.00} \\ \underline{8} \phantom{0} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

### Adding Integers:

- Same signs  $\rightarrow$ 
  - 1) Add the absolute values
  - 2) Keep the sign
- Ex:  $-2 + -4 = -6$
- Different signs  $\rightarrow$ 
  - 1) Subtract
  - 2) Take sign of # with larger absolute value.
- Ex:  $-7 + 4 = -3$

### Subtracting Integers -

- 1) Keep, change, change
- 2) Follow addition rules

Ex:  $-3 - (-2) =$   
 $-3 + 2 = -1$

### Multiply/Divide Integers -

- Same signs = positive #
- different signs = negative #

Ex:  $-4(-8) = 32$

Ex:  $\frac{24}{-3} = -8$

## Sample Problems

### Order of Operations - (PEMDAS)

$$4 \cdot (3 - 2^2) - 24 \div (-2)$$

$$4 \cdot (3 - 4) - 24 \div (-2)$$

$$4 \cdot (-1) - 24 \div (-2)$$

$$-4 - -12$$

$$-4 + 12 = \boxed{8}$$

### Variable Expressions -

$$7x - 4y$$

$$x = -3$$

$$y = 5$$

$$7(-3) - 4(5)$$

$$-21 - 20$$

$$-21 + -20$$

$$\boxed{-42}$$

### Translating Expressions -

4 less than the product of a number and 2.

$$2n - 4$$

• Variable Term - term with a variable  
ex:  $2x$

• Coefficient - # before the variable  
ex:  $4x$  (coefficient is 4)

• Constant - term with no variable  
ex: 10

### Combining Like Terms -

(Add terms that have the same variables. Add constants together.)

Ex:  $4x - 2y + 8 - 6x - 12y + 2$

$$(4x + -6x) + (-2y + -12y) + (8 + 2)$$

$$\boxed{-2x - 14y + 10}$$

### Distributive Property -

$$-2(3x - 7)$$

$$\boxed{-6x + 14}$$

### One-Step Equations -

\* Use inverse operations to get the variable by itself.

$$x - 3 = -24$$

$$\begin{array}{r} x - 3 = -24 \\ +3 \quad +3 \end{array}$$

$$\boxed{x = -21}$$

### Decimal $\Rightarrow$ Percent - (D2P)

move decimal  
2 places right.

$$0.3 \Rightarrow \%$$

$$0.3 \Rightarrow \boxed{30\%}$$

Percent  $\Rightarrow$  Decimal - (D2P) move decimal  
2 places left.

$$17.5\% \Rightarrow \text{decimal}$$

$$\boxed{.175}$$

Name: \_\_\_\_\_

Math 6 Review: Packet #1

**Topic B: Operations with Fractions and Decimals**

**Evaluate. Write each answer as a fraction or mixed number in simplest form.**

1.  $\frac{1}{4} + 4\frac{5}{6}$

2.  $5\frac{1}{8} - 2\frac{1}{6}$

3.  $1\frac{3}{4} + 5\frac{7}{10}$

4.  $3\frac{1}{7} \cdot 2\frac{5}{6}$

5.  $4\frac{1}{6} \div 1\frac{1}{4}$

6.  $3\frac{2}{5} \div 4$

**Evaluate.**

7.  $24.95 + 176.089$

8.  $98.1 - 14.726$

9.  $3.59(17)$

10. 80.95(0.04)	11. 7.8(15.12)	12. $73.2 \div 8$
13. $\frac{61.95}{15}$	14. $\frac{91.8}{3.4}$	15. $2.12 \div 2.65$

**Topic D: Fractions vs. Decimals**

Write each decimal as a fraction or mixed number in simplest form.

1. 2.8	2. 12.95	3. 7.125
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Write each fraction or mixed number as a decimal.

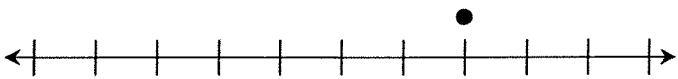
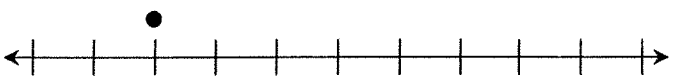
4. $3\frac{7}{25}$	5. $\frac{27}{40}$	6. $1\frac{5}{12}$
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**Topic E: Integers and Integer Operations**

<p><b>1. Write an integer to model each situation.</b></p> <p>a) a \$60 profit _____</p> <p>b) a 7-yard loss _____</p> <p>c) a 125-foot descent _____</p>	<p><b>2. Name the opposite of each integer.</b></p> <p>a) 19 _____,      b) 43 _____</p> <p>c) -7 _____      d) -26 _____</p>
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<p><b>Give each absolute value. (always positive!)</b></p>			
3. $ 40 $	4. $ -17 $	5. $ 21 $	6. $ -9 $

<p><b>7. Order from least to greatest:</b> -13, 4, -9, -17, 0, -5</p>	<p><b>8. Order from greatest to least:</b> -46, -52, -57, -41, -60</p>
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<p><b>Graph each integer at the dot on the number line. Then, number the rest of the line.</b></p>	
<p>9. 3</p> 	<p>10. -16</p> 

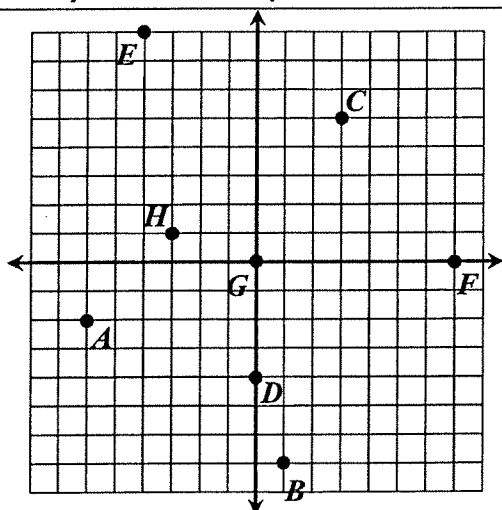
<p><b>Find each sum or difference.</b></p>		
11. $-9 + (-5)$	12. $27 + (-19)$	13. $-7 + 31$
14. $8 + (-11)$	15. $6 + (-6)$	16. $-51 + 16$
17. $7 - 12$	18. $-6 - 17$	19. $14 - (-12)$
20. $-13 - 13$	21. $-8 - (-3)$	22. $-4 - (-15)$

Find each product or quotient.

23. $7 \cdot (-4)$	24. $-9 \cdot (-8)$	25. $-2 \cdot 16$
26. $17(4)$	27. $-5(13)$	28. $-6 \cdot (-8)$
29. $-40 \div (-8)$	30. $\frac{27}{-3}$	31. $\frac{-56}{4}$
32. $56 \div 8$	33. $\frac{14}{0}$	34. $0 \div (-8)$

**Topic G: The Coordinate Plane**

Identify the ordered pair and location (quadrant or axis) for each point on the graph.



Point	Ordered Pair	Location
A		
B		
C		
D		
E		
F		
G		
H		

**Topic A: Powers, Exponents, and Perfect Squares**

Write each product in exponential form.

1. $13 \cdot 13 \cdot 13 \cdot 13 \cdot 13 \cdot 13 \cdot 13 \cdot 13$	2. $(-8) \cdot (-8) \cdot (-8) \cdot (-8) \cdot (-8)$
3. $(-2) \cdot 7 \cdot 15 \cdot (-2) \cdot 7 \cdot (-2) \cdot (-2) \cdot 7$	4. $x \cdot x \cdot y \cdot x \cdot y \cdot x \cdot x \cdot x \cdot y \cdot y \cdot y \cdot x$

Write each number as a power of 10.

5. 10,000	6. 100,000,000,000
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**Topic B: Order of Operations****Simplify each expression.**

1. $6(-4) + 2(9)$	2. $20 - 3 \cdot 4^2$	3. $\frac{8 - 5^2 + 29}{-1 - 2}$
4. $8 \cdot (5 - 2^3) - 28 \div (-4)$	5. $\frac{3^4 - 4^2}{-11 + 6}$	6. $1\frac{11}{12} - \frac{5}{6} \cdot \frac{9}{10}$

**Topic C: Evaluating Expressions****Evaluate each expression using the given variable replacements.**

1. $4p - 17$ (if $p = -3$ )	2. $8c - 3d$ (if $c = 2, d = -4$ )	3. $y^2 - 9y$ (if $y = -7$ )
4. $\frac{4}{5}a - \frac{3}{8}b$ (if $a = \frac{5}{8}, b = \frac{2}{9}$ )	5. $\frac{7y + x}{x - 1}$ (if $x = -2, y = -4$ )	6. $mn - n^3 \div 2m$ (if $m = 8, n = 4$ )



**Topic D: Translating Expressions**

**Translate into an algebraic expression using a variable.**

1. "16 subtracted from a number"	2. "the product of a number and -9"
3. "twice a number, increased by 7"	4. "the sum of one-third of a number and 4"
5. "the quotient of 48 and a number"	6. "8 less than the product of a number and 3"
7. Naomi ran a race 7 seconds faster than her friend Jenny. If Jenny ran the race in $s$ seconds, write an expression for Naomi's time.	8. Antonio bought $x$ pounds of apples and $y$ pounds of bananas. If apples cost \$1.30 per pound and bananas cost \$0.50 per pound, write an expression for the total cost.

**Topic E: Simplifying & Factoring Expressions**

**Identify the variable terms, coefficients, and constants of each expression.**

Expression	Variable Terms	Coefficients	Constant Terms
1. $20 - 3k + 7k - 9 - k$			
2. $-11 - 4a + 3b - 5 + a - 12b$			

**Simplify each expression by combining like terms.**

3. $11x - 9 + 3x$	4. $-7 - 3r + 5r - 12 + r$	5. $-9c + 14d - 2d + 4c$
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**Simplify each expression using the distributive property.**

6. $3(8 + 11)$	7. $-7(8 - 2)$	8. $9(k + 3)$
9. $3(2r - 7s)$	10. $-5(2v + 1)$	11. $\frac{5}{4}(28c + 8)$

**Topic A: Solving One-Step Equations****Solve each equation. Check all solutions.**

1.  $x + 7 = 23$

2.  $-42 = 6p$

3.  $y - 5 = -8$

4.  $\frac{a}{-4} = -6$

5.  $7 = m - (-9)$

6.  $-8c = -72$

7.  $r + (-4) = 11$

8.  $\frac{k}{1.4} = 28$

9.  $32.1 = 4.7 + v$

10.  $x + \frac{1}{6} = \frac{13}{15}$

11.  $1\frac{7}{9} = \frac{5}{6}m$

12.  $c \div \frac{5}{12} = 2\frac{7}{10}$

**Translate each sentence into an equation. Do not solve.**

13. "The sum of 9 and a number is -4"

14. "The quotient of a number and 7 is -12."

15. "The product of a number and -3 is -42."

16. "8 less than a number is 34."

**Topic E: Converting Fractions, Decimals, and Percents**

Complete the chart below.

	FRACTION	DECIMAL	PERCENT
1.	$\frac{7}{25}$		
2.	$\frac{9}{5}$		
3.	$\frac{1}{8}$		
4.	$\frac{5}{12}$		
5.		0.325	
6.		2.1	
7.		0.78	
8.			87.5%

**Topic F: Comparing Fractions, Decimals, and Percents**

Compare by placing a &lt;, &gt;, or = symbol in the circle.

1. 120% ○ 0.975	2. $\frac{13}{20}$ ○ 8%	3. $\frac{3}{25}$ ○ $\frac{1}{8}$
4. 130% ○ $1\frac{1}{3}$	5. $\frac{17}{20}$ ○ $\frac{5}{6}$	6. 9% ○ $\frac{7}{40}$
7. Order from <u>least to greatest</u> : $\frac{2}{5}$ , 30%, 1.2, $\frac{3}{8}$	8. Order from <u>greatest to least</u> : $\frac{2}{3}$ , 8%, $\frac{7}{10}$ , 0.65	