2024 Incoming 7th Grade Math Summer Packet

Hello and Happy Summer!

This packet contains a summary of most of the skills that we worked on this year. It is not intended to be completed in a short amount of time. Avoid using online calculators and AI websites to do this work. It will be a disservice to yourself to let something else do the thinking for you.

Pace yourself over the summer and ensure that you are still able to demonstrate the skills when you come back to school in the Fall. I am excited to see you then!

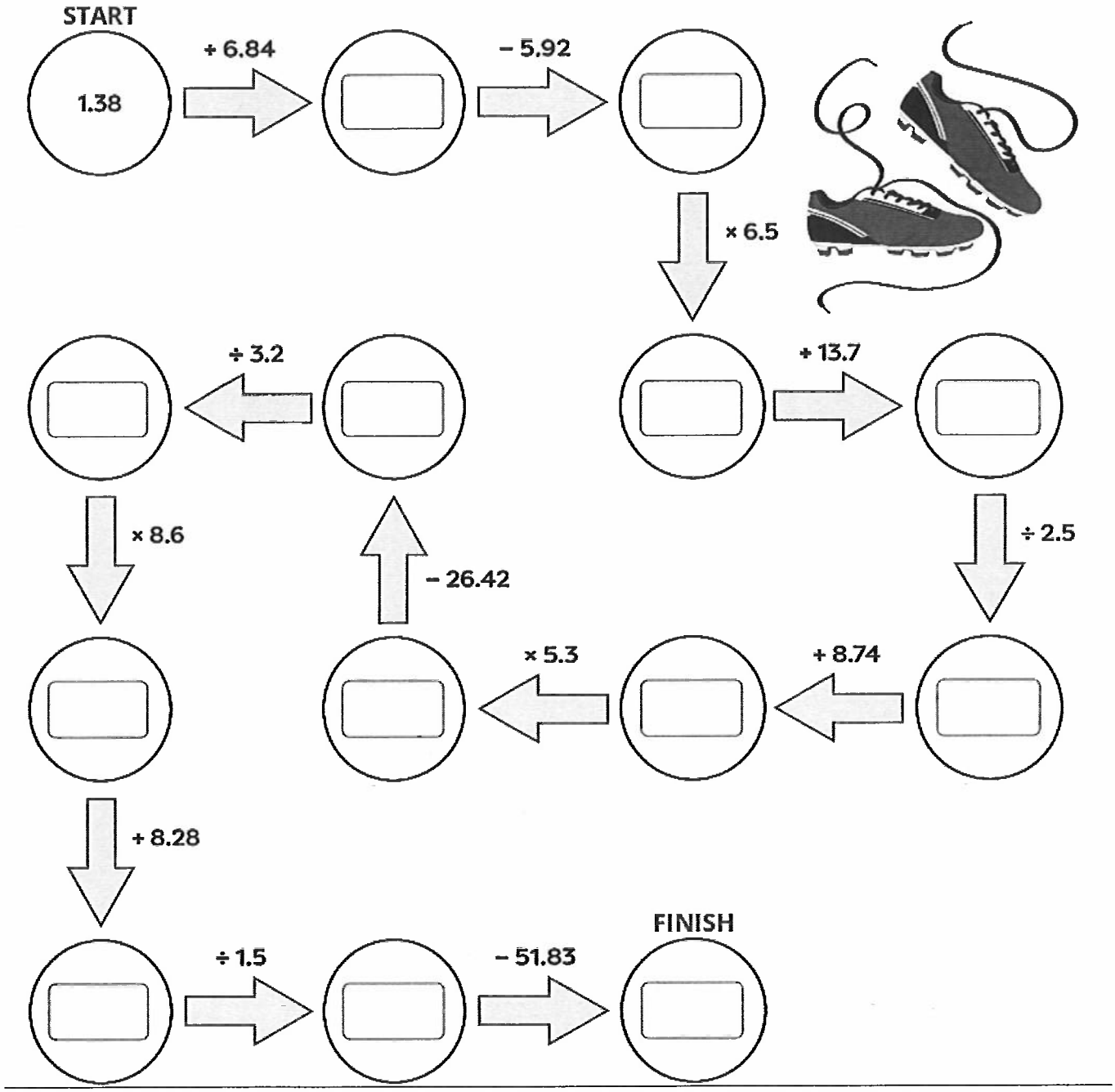
~ Ms. Wright

Table of Contents

Methodical Problem Solving - Sudoku

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

Decimal Operations



Decimal Operations - Word Problems

1) Adam bought 4.8 lbs of cherry and lime jelly beans for his birthday party. If 2.3 lbs were cherry flavor, how many pounds were lime flavor?

2) George and Robin were comparing the distance they ran over a week. If George ran 10.55 miles and Robin ran 6.8 miles, how far did they run total?

3) A botanist was measuring how tall her plant grew. After two weeks it had grown 15.46 inches. The second week alone it had grown 5.56 inches! How much did it grow the first week?

4) A computer programmer had two files. The first was 30.66 gigabyes and the second was 48.2 gigabytes. What is the total file size of both?

5) Tiffany was checking the weight of a gold nugget and a piece of fool's gold. Together they weighed 92.5 grams. If the fool's gold was 23.80 grams, how much did the gold nugget weigh?

Least Common Multiple and Greatest Common Factor

Write the greatest common factor AND Lowest Common Multiple for each set of numbers

	12 and 20	25 and 75	36 and 90	8 and 56	20 and 50	14 and 35
GCF						
LCM						

56	75	8	10	70	60
4	100	7	18	25	180

Answer Key

Fractions

Add and Subtract Signed Fractions - Simplify where necessary.

① $\frac{11}{16} + \left(-\frac{8}{24}\right) =$

② $\left(-\frac{5}{6}\right) - \frac{12}{9} =$

③ $-\left(-\frac{3}{12}\right) + \frac{13}{14} =$

④ $\left(-\frac{4}{15}\right) + \frac{4}{9} =$

⑤ $\frac{9}{8} + \left(-\frac{9}{16}\right) =$

⑥ $\left(-\frac{5}{8}\right) - \frac{3}{10} =$

Exponents

Write the following numerals in expanded form and standard form.

S.No	Exponential Form	Expanded Form	Standard Form
1)	9^2		
2)	3^5		
3)	$(-2)^4$		
4)	7^3		

Write the following numerals in exponential form with the given bases.

S.No	Standard Form	Base	Exponential Form
1)	3,125	5	
2)	1,296	–6	
3)	729	3	
4)	64	8	

Write the following numerals in exponential form using prime factorization.

1) 32 = 2^5

2) 125 = _____

3) 81 = _____

4) 128 = _____

5) 1,331 = _____

6) 49 = _____

Order of Operations - Integers

Simplify each expression using the correct order of operations.

$2^3 \times (8 + 4 - 10)$

$2 \times (3^3 - 5 + 8)$

$(3 \times 2^2) \div (6 - 4)$

$3^3 \times (6 + 2 - 8)$

$(3^2 - 8 + 2) \times 4$

$(9^2 - 8 + 2) \div 5$

$(-5)^2 - 2 \times (-9) + 6$

$3 \times 10 + 8 - 4^2$

$(-9) - (-8) + 2 \times 4^2$

$(-3)^3 - 2 + 8 \div (-8)$

$8 \div (-4) \times (-6)^2 + 7$

$4 \times (-8) + 6 - (-2)^3$

Algebraic Expressions

STATEMENT		EXPRESSION
Example:	double x and add 5	$2x + 5$
1) multiply a by 12		
2) subtract 0.3 from b		
3) divide c by 6		
4) double d and then add 3		
5) double e and then subtract 5		
6) multiply 100 by f		
7) divide 20 by g		
8) subtract h from 2.5		

Solve each algebraic expression given the value provided.

1) $7b + 6b - 4$ use $b = 6$

2) $5(3b + 6) + 4$ use $b = 3$

3) $\frac{f}{5} + 5 + 9f$ use $f = 10$

4) $-9(-7 - 8z)$ use $z = 7$

5) $4 + 7 + 8b + 9b$ use $b = 3$

6) $8 - 3k - 7$ use $k = 2$

One-Step Equations

Solve each equation for the given variable.

1) $3 = n - 4$

2) $11 = 2 + x$

3) $\frac{c}{4} = 9$

4) $36 = 6y$

5) $-0.5 = -\frac{s}{2.2}$

6) $u + 8.3 = -7$

7) $p - 3 = 15$

8) $7 = \frac{k}{9}$

9) $-6 = w - 2.7$

10) $3.6 = 9.1 + x$

Absolute Value

Write the absolute value of each number.

1) $\lvert 4 \rvert =$	2) $\lvert -13 \rvert =$	3) $-\lvert 10 \rvert =$
4) $-\lvert -7 \rvert =$	5) $\lvert 11 \rvert =$	6) $\lvert -2 \rvert =$
7) $-\lvert 12 \rvert =$	8) $-\lvert 5 \rvert =$	9) $\lvert 1 \rvert =$

Solve each expression.

1) $\lvert 56 - 18 + 7 \rvert + \lvert -2 \rvert =$	2) $\lvert 34 \rvert + \lvert 15 \rvert - 21 =$
3) $\lvert 8 \rvert - \lvert 13 \rvert =$	4) $\lvert -10 \rvert - \lvert 8 - 2 + 4 \rvert - 17 =$

Integers

A) Write each set of numbers in the correct order from least to greatest.

1)	36	69	5	−3	−19	☐	☐	☐	☐	☐
2)	58	−34	7	−11	−6	☐	☐	☐	☐	☐
3)	−8	−25	−33	−3	−1	☐	☐	☐	☐	☐
4)	76	−64	29	−16	18	☐	☐	☐	☐	☐
5)	51	4	−22	2	−10	☐	☐	☐	☐	☐

Write an integer to represent each situation mentioned below:

1) Trevor's credit card bill is $23 more than it was the previous month.

_____

2) The stock market lost 6 points at the time of the closing bell.

_____

3) Lara owes $15 to her friend Max.

_____

4) There was an increase in price of crude oil by $3 yesterday.

_____

Evaluate the following expressions for $u = -9$ and $v = 5$.

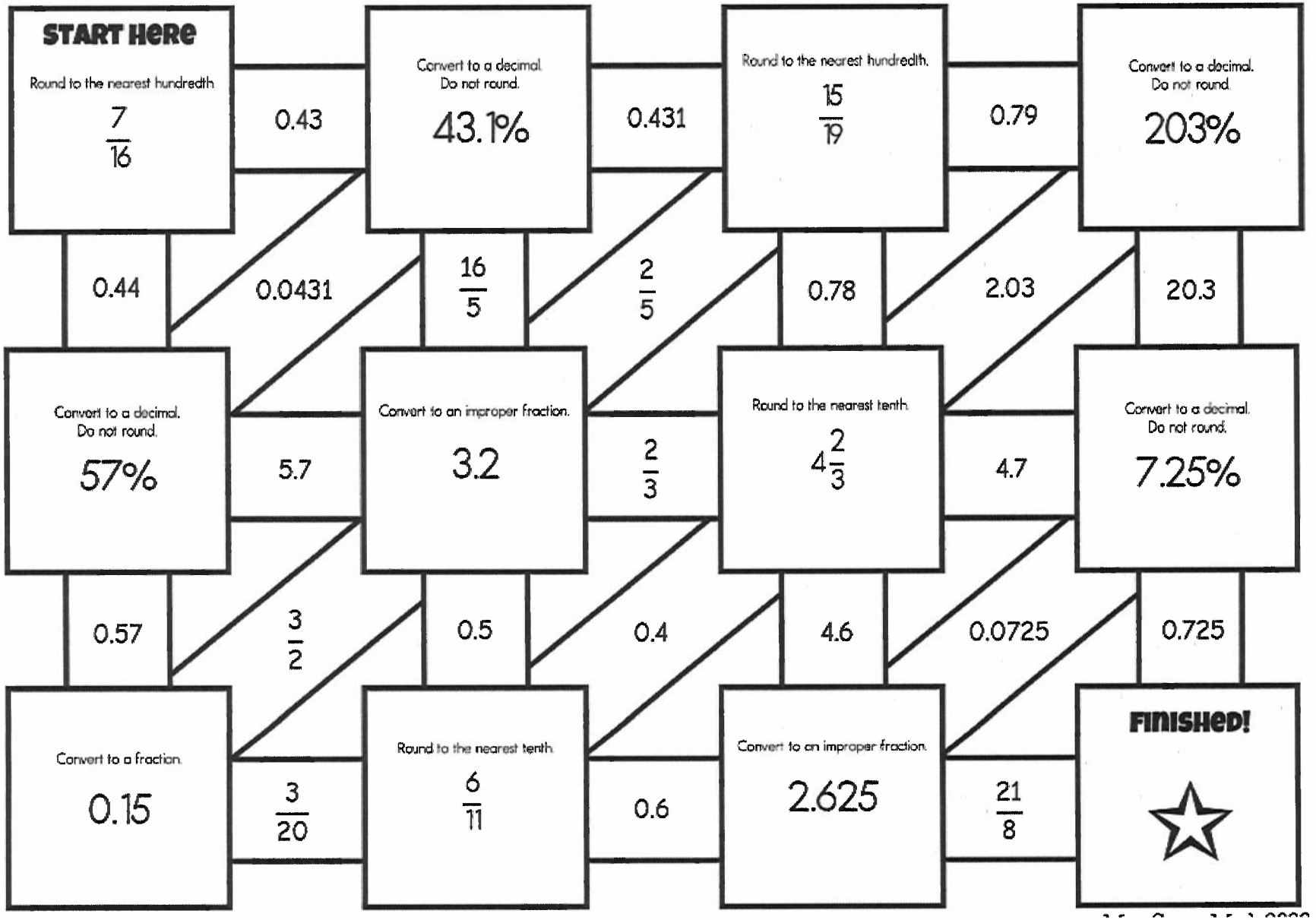
i) $v + \frac{8u}{5} + 1$ ii) $v + (-16)$ iii) $-u - v$

Rational Conversions

Fraction	Decimal	Percent
$\frac{17}{100}$	0.17	17%
$\frac{1}{4}$		
		3%
	0.8	
$\frac{31}{100}$		
	0.76	
$\frac{13}{25}$		
		47%
$\frac{7}{25}$		
		94%
	0.12	
		65%

FRACTIONS, DECIMALS, PERCENTS & ROUNDING Maze

Directions: Answer each question. Follow the path of the maze based on your answers until you get to the FINISHED box.

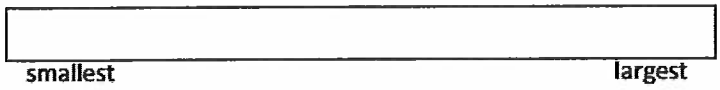


Rational Conversions 2

Compare Rational Numbers

In the box, rearrange the lists of numbers from smallest to largest.

A) $|1.4|$ $|-2.1|$ $\frac{3}{4}$ $2\frac{1}{2}$



B) $\frac{3}{2}$ $|-1.8|$ 2.3 -0.5

C) $1\frac{1}{4}$ $|-2|$ -0.7 $\frac{1}{2}$ -1.2

D) $|-0.6|$ $\frac{5}{2}$ $1\frac{1}{2}$ $|-3.2|$ $-\frac{3}{4}$

E) $|-1.3|$ -0.7 $|-0.2|$ $\frac{1}{2}$ -1

F) -0.6 $\frac{1}{4}$ -1.2 $\frac{3}{2}$ $|-2|$ 0

G) $|-0.3|$ 2.1 $|-\frac{1}{2}|$ -1 -0.2 $\frac{5}{5}$

GRAPHING SPRING

Graph the lines below to reveal the Spring image.

(15, 0) (15, 2)
(15, 2) (11, 5)
(11, 5) (11, 8)
(11, 8) (7, 5)
(7, 5) (3, 3)
(3, 3) (1, 5)
(1, 5) (3, 11)

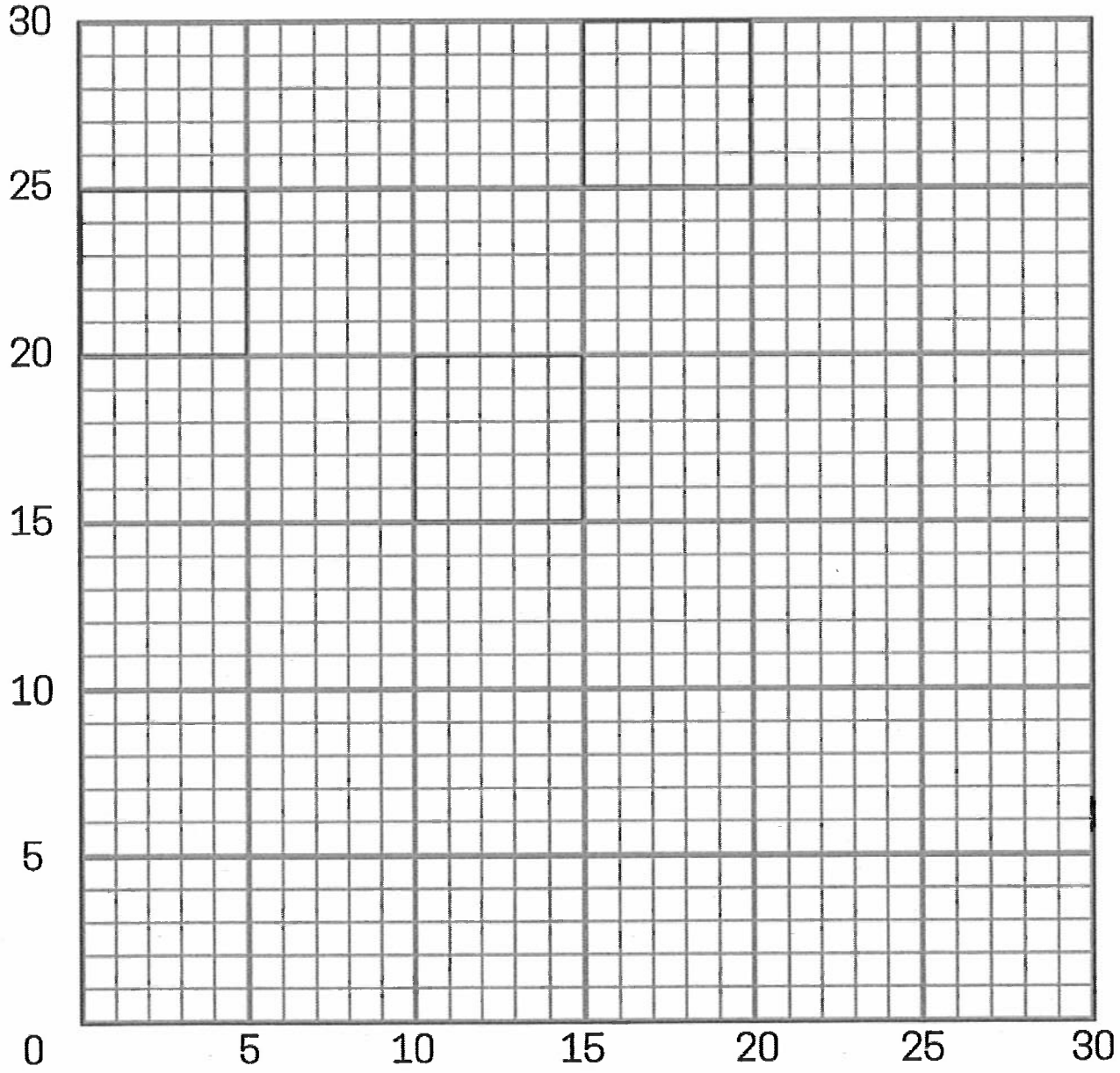
(3, 11) (12, 18)
(11, 8) (19, 8)
(13, 11) (17, 11)
(12, 18) (14, 19)
(14, 19) (15, 17)
(15, 17) (14, 15)
(14, 15) (13, 11)

(13, 11) (11, 8)
(15, 2) (19, 5)
(19, 5) (19, 8)
(19, 8) (23, 5)
(11, 5) (19, 5)
(14, 15) (16, 15)
(23, 5) (27, 3)

(27, 3) (29, 5)
(29, 5) (27, 11)
(27, 11) (18, 18)
(18, 18) (16, 19)
(16, 19) (15, 17)
(15, 17) (16, 15)
(16, 15) (17, 11)

(17, 11) (19, 8)
(18, 18) (19, 21)
(19, 21) (17, 23)
(17, 23) (19, 27)
(17, 23) (13, 23)
(13, 23) (11, 27)
(13, 23) (11, 21)

(11, 21) (12, 18)



GRAPHING SPRING 2

Graph the lines below to reveal the Spring image.

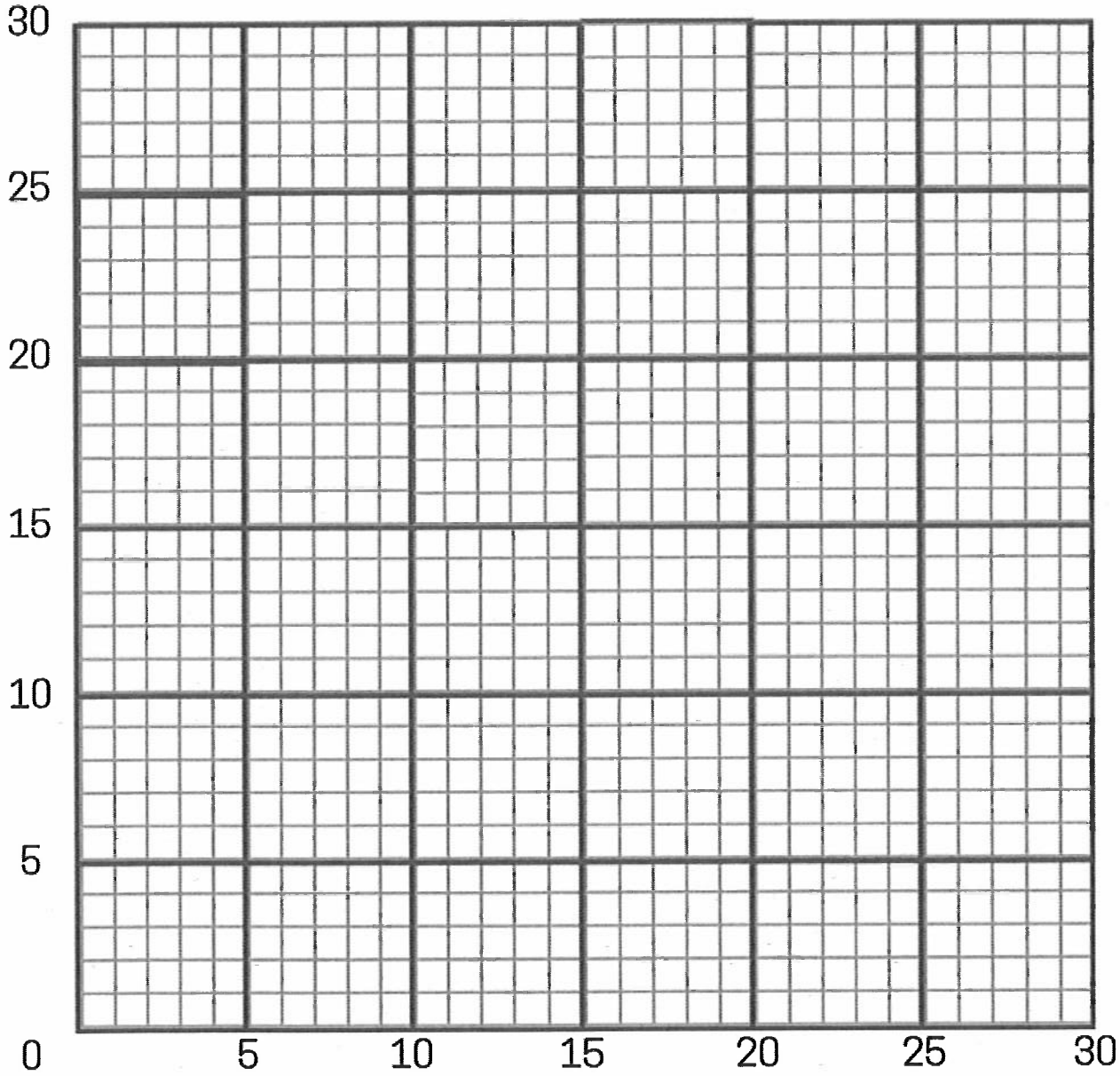
(5, 17) (15, 28)
(5, 17) (8, 19)
(8, 19) (8, 7)
(8, 7) (7, 6)
(7, 6) (15, 6)

(15, 6) (23, 6)
(15, 6) (15, 0)
(23, 6) (22, 8)
(8, 7) (22, 8)
(22, 8) (22, 19)

(22, 19) (25, 17)
(25, 17) (15, 28)
(15, 13) (18, 14)
(18, 14) (19, 16)
(19, 16) (19, 18)

(19, 18) (17, 20)
(17, 20) (15, 21)
(15, 21) (13, 20)
(13, 20) (11, 18)
(11, 18) (11, 16)

(11, 16) (12, 14)
(12, 14) (15, 13)

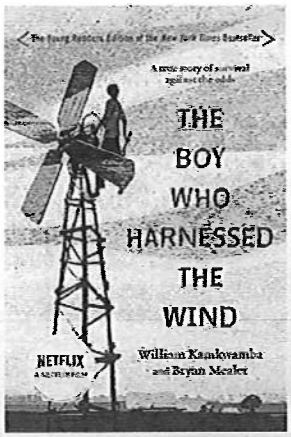


Our Lady of the Holy Rosary – St. Richard Catholic School

Incoming 7th Grade Summer English Assignment

For your summer English assignment, you will be required to complete **both** activities listed and described below. Be sure to read over these instructions **thoroughly** to properly complete each component:

READING: For your reading component, you will be required to purchase and read ***The Boy Who Harnessed the Wind (Young Readers Edition)*** **by William Kamkwamba and Bryan Mealer.** Information on the book is listed below:



The Boy Who Harnessed the Wind (Young Readers Edition) (William Kamkwamba and Bryan Mealer)
ISBN: 9780147510426

WRITING: Consider the themes of innovation and overcoming challenges, as explored in the novel. Think about one invention that has made an impact not only on your personal life, but that of your family's as well. **Type a three-page report, following the formatting guidelines below, addressing the following:**

- How has this invention affected your and your family's lives? (Address the positives and negatives)
- What problem(s) was this invention intended to solve? Has it solved those problems? How/Why?
- How are your attitudes and beliefs about your invention similar to/different from William Kamkwamba's, as detailed in the novel?

Formatting Guidelines: Size 12 font, Times New Roman, double-spaced, and one-inch margins around the page. *Please only print in black ink.*

Include a separate title page at the front of your report for a total of **four pages**.