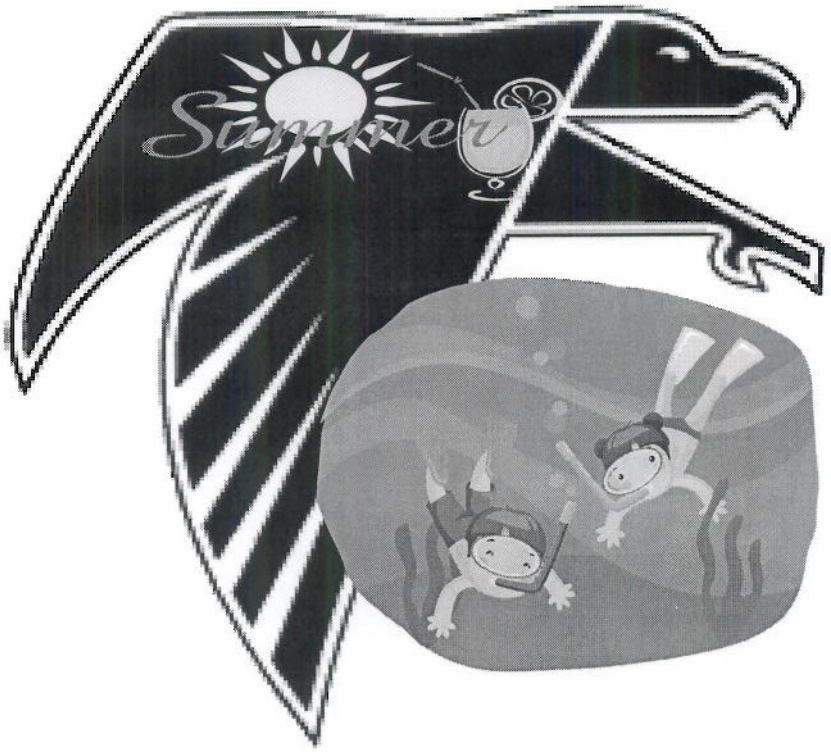
Name: _____ Date: _____

Lakelands Park Middle School



Honors Geometry Summer Packet

Dear Students,

Summer vacation is almost here and the start of the new school year is just around the corner. We want you to be prepared for the upcoming school year. It is important that you have a smooth transition to your new math class at the beginning of the school year. With this in mind, we are providing a practice workbook of previously taught skills for you to complete over the summer.

It is your responsibility to complete the workbook before the start of the school year. Please follow the directions for calculator use on each page. You should show all necessary work so that you and your teacher can both understand how you resolved the problems. If you have trouble on some of the information, seek assistance from a parent/guardian or other adult who may be able to assist you. We have also included some websites which may assist you in completing the workbook. Remember the goal is to work consistently throughout the summer and not to rush to finish the workbook quickly.

You will receive an answer key for the workbook upon your return from summer vacation. You will be expected to seek help from your teacher on any topics that you found challenging. You will be able to demonstrate your knowledge of these concepts on a pre-assessment which will be graded for accuracy.

We look forward to seeing you in the fall.

Sincerely,

LPMS Mathematics Department

Websites for additional support and practice:

Kahn Academy	https://www.khanacademy.org/
Xtra math	http://xtramath.org/
Learn Zillion	http://learnzillion.com/
Purple math	http://www.purplemath.com/
IXL	http://www.ixl.com/
Math is fun	http://www.mathisfun.com/

Fractions

Simplify the following fractions:

1. $\frac{8}{24} =$
2. $\frac{21}{14} =$
3. $\frac{5}{20} =$

Write the following mixed numbers as improper fractions:

4. $2\frac{1}{7} =$
5. $-5\frac{7}{8} =$
6. $6\frac{3}{7} =$

Perform the indicated operation, and simplify if necessary:

7. $\frac{5}{4}+\frac{3}{4} =$
8. $\frac{7}{8}-\frac{1}{2} =$
9. $\frac{6}{7}+\frac{3}{2} =$
10. $\frac{9}{2}+\frac{7}{5} =$
11. $\frac{15}{8}-\frac{12}{5} =$
12. $-\frac{3}{5}-\frac{2}{7} =$
13. $\frac{2}{3}\bullet\frac{5}{8} =$
14. $-\frac{5}{3}\bullet\frac{2}{5} =$
15. $\frac{4}{7}\bullet\frac{8}{3} =$
16. $\frac{1}{3}\div\frac{5}{2} =$
17. $\frac{1}{9}\div\frac{7}{8} =$
18. $-\frac{4}{5}\div\frac{1}{6} =$
19. $6\bullet\frac{4}{5} =$
20. $15\div\frac{3}{8} =$
21. $\frac{2}{7}\bullet 14 =$

Order of Operations

Evaluate each expression:

1. $3 + 7 * 5 - 2$

2. $24 - 2^2 * 7 - 5$

3. $2 (5 + 3) - 5*4$

4. $-3 (12 - 7) + 3^3$

5. $4 [5(9 + 3) - 3(4 - 2)]$

6. $49 - (5 + 2)^2 + 14$

7. $\frac{1}{3}(2 + 4)^2$

8. $(7 - 9)^2 \div (5 + 4)^2$

9. $14 - (4^3 \div 16) * 5$

10. $(3 - 5)^3 \div 2 (4 * 3)$

Proportions

Solve each proportion for the missing value:

1. $\frac{2}{3} = \frac{x}{12}$

2. $\frac{5}{y} = \frac{10}{14}$

3. $\frac{15}{5} = \frac{9}{n}$

4. $\frac{x+2}{2} = \frac{4}{3}$

5. $\frac{2}{0.4} = \frac{15}{t}$

6. $\frac{.21}{2} = \frac{4}{a}$

Solve for each problem below by using proportions.

7. Sue was paid \$384 for working 32 hours. How many hours will she have to work to earn \$672 ?

8. Tommy drove 238 miles in 5 hours. How long will it take him to travel the next 72 miles, if he continues at the same speed ? (Give your answer in minutes)

9. Matt paid \$33.41 for 13 gallons of gasoline. How many gallons can he buy if he only has \$14 ?

Exponents

Simplify the following expressions:

1. $x^3 \cdot x^2$

2. $(x^4)^2$

3. $x^5 \div x^2$

4. $\dfrac{x^3 y^5}{x^4 y^2}$

5. $a^{-5} \cdot b^2$

6. $(2x^3)^2$

7. $\dfrac{15a^4 b^2 c^3}{5ac^5}$

8. $\left(\dfrac{2h^3}{3}\right)^2$

9. $t^4 \cdot t^2 \div t^7$

Solving Equations

Solve the following equations.

1. $7x - 17 = 60$

2. $5y - 13 = 37$

3. $\frac{r+8}{-3} = -2$

4. $3(x+2) = 18$

5. $-2 + 10x = 8x - 1$

6. $2(a - 3) + 5 = 3(a - 1)$

7. $3 + \frac{2}{5}y = 11 - \frac{2}{5}y$

8. $2[x + 3(x - 1)] = 18$

9. $1.03t - 4 = -2.15t + 8.72$

10. $-3(x + 5) = 8x + 18$

11. One half of a number increased by 16 is four less than two thirds of the number. Find the number.

12. Two times the sum of a number and eight is equal to the difference of ten and that number. Find the number.

Solving Equations II

Solve the following equations.

1. $-4y + 3y - 8 = 24$

2. $\frac{m}{-5} + 6 = 4$

3. $-4r + 5 - 6r = -32$

4. $\frac{x}{-3} + (-7) = 6$

5. $6x + (-3) = -12$

6. $\frac{y}{-2} + (-4) = 8$

7. $9 - 5(4-3) = -16 + \frac{x}{3}$

8. $6y - 14 - 3y = 8(7 - (-2))$

9. $4c + 5c - 8c = 13 + 6$

10. $3(7 + x) = 5(7 - (-4))$