To: Algebra 1 Students:

Summer is finally here . . .

In anticipation of the next school year, we want to do everything possible to ensure that it will be very successful. A basic knowledge of Math concepts and proficiency in their use will give a good foundation for your continued learning in math of Algebra concepts. Therefore, we have the following summer packet for you to complete. This is to be done without the aid of a calculator.

It is required that you complete all of the exercises, showing ALL work. Additional sheets may be attached to the packet if you need them to show your step-by-step solutions. Please number all problems clearly. The packet will be checked the first day of class, either first or second semester. You will be quizzed on this material with-in the first few weeks of class. Please note that although you will be allowed to use calculators for other aspects of the Algebra 1 course, you will NOT be allowed to use a calculator for this quiz. The grade for this quiz will be included in your first marking period average.

During the first week of the semester, we will offer review sessions during activity periods for those who feel they need some extra help. Attendance is optional, so if you are comfortable with your Math skills there is no need to attend. However, we will be glad to give you a refresher if you had some problems with packet. Please come prepared with questions to help sessions.

Have an enjoyable, relaxing summer. We're looking forward to seeing you during the next school year. If you have any questions, please contact the math department.

Sincerely,

Algebra 1 Teachers
Notre Dame High School

Algebra 1 Summer Packet

Solve the problems and show ALL your work.

I) **FRACTIONS**

A) Reduce to simplest form.

1) $\frac{3}{9}$ 2) $\frac{4}{10}$ 3) $\frac{24}{32}$

B) **Change to improper fractions**

1) $2\frac{3}{8}$ 2) $3\frac{6}{7}$ 3) $7\frac{3}{4}$

C) **Change to mixed numbers.**

1) $\frac{7}{3}$ 2) $\frac{21}{9}$ 3) $\frac{42}{16}$

D) **Adding fractions.**

1) $\frac{1}{2}+\frac{1}{8}$ 2) $1\frac{3}{7}+2\frac{1}{2}$ 3) $3\frac{2}{3}+2\frac{2}{5}+4\frac{5}{6}$

E) **Subtracting fractions.**

1) $\frac{3}{5}-\frac{1}{10}$ 2) $5\frac{5}{9}-2\frac{1}{3}$ 3) $4\frac{3}{8}-2\frac{5}{6}$

F) **Multiplying fractions.**

1) $\frac{2}{5}\times 6$ 2) $5\frac{1}{4}\times 1\frac{1}{7}$ 3) $\frac{4}{8}\times\frac{3}{5}\times\frac{1}{2}$

G) **Dividing Fractions**

1) $4\frac{1}{2}\div\frac{3}{4}$ 2) $7\frac{1}{5}\div 2\frac{1}{4}$ 3) $3\frac{2}{5}\div 4$

II) **DECIMALS**

A) **Working with decimals**

1) $316.4 + 12.12 + 3.44 + .008 =$

2) $\$72.54 + \$12.69$

3) 31.2×456

4) $170.8 \div 61$

B) **Write as a decimal**

1) $\frac{7}{10}$

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

3) $8\frac{1}{4}$

C) **Write as a percent**

1) $\frac{4}{5}$

2) $1\frac{2}{5}$

3) $\frac{2}{3}$

D) **Write as a decimal**

1) 51%

2) 102%

3) $\frac{3}{4}\%$

E) **Write as a fraction in lowest terms.**

1) 125%

2) 3%

3) 50%

F) **Write as a percent AND as a fraction or mixed number.**

1) $.25$

2) 1.2

3) $.125$

III) **INTEGERS**

1) $-4 + (-5)$

2) $-3 + (-8) + 12$

3) $7 - 14$

4) $13 - 7 - 15$

5) $-(-26)$

6) $(8)(-6)(-1)$

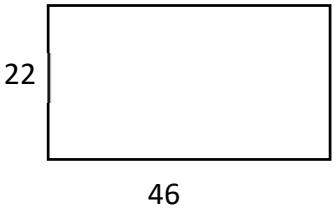
7) $165 \div (-5)$

8) $-150 \div (-6)$

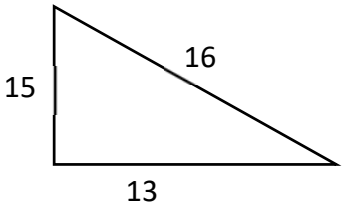
IV) **BASIC GEOMETRY AND USING FORMULAS**

Find the perimeter.

1) $\boldsymbol{P = 2l + 2w}$

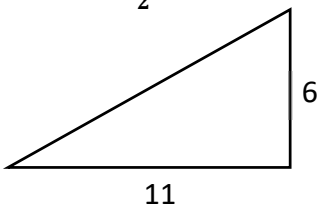


2) $\boldsymbol{P = s + s + s}$



Find the area

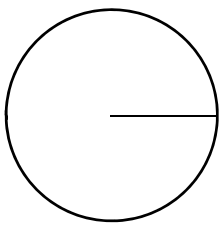
1) $\boldsymbol{A = \frac{1}{2}bh}$



2) $\boldsymbol{A = bh}$

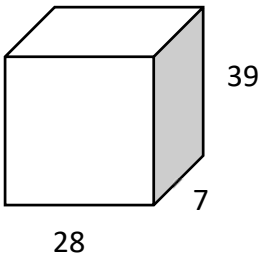
Find the a) circumference and b) area.
$\boldsymbol{C = 2\pi r}$ $\boldsymbol{A = \pi r^2}$

1) Radius = 3



Find the volume $\boldsymbol{V = lwh}$

1)



V) **CRITICAL THINKING**

1) Tasha bough salads at $2.75 each and cartons of milk at $.80 each. The total cost was $16.15. How many of each did Tasha buy?

2) A rectangular garden is 45 feet long and has a perimeter 150 feet. Rows of plants are planted 3 feet apart. Find the area of the garden.

3) If five turkey club sandwiches cost $18.75, how much would seven sandwiches cost?

4) How many diagonals can be drawn from one vertex of a 12-sided polygon?

5) Mike wants to arrive at school no later than 7:25AM for his first class. It takes him 25 minute to shower and dress, 15 minutes to eat breakfast and at least 20 minutes to get to school. What time should he plan to get out of bed?

6) There are 32 players in a single-elimination chess tournament. That is, a player who loses once is eliminated. Assuming there are no ties allowed, how many games must be played to determine a champion?

7) Andrea, Betty, Joyce, Karen and Paula are starters on their school basketball team. How many different groups of three can by chosen for a newspaper photo?

8) Carl has $135 in the bank and planes on to save $5 per week. Jean has $90 in the bank and planes to save $10 per week. How many weeks will it be before Jean has at least as much in the bank as Carl?