

Holy Family Catholic School
Summer Math Packet
Due the first week of school

Rising 7th Grade

Purpose: This assignment is designed to keep you thinking about math even when you're on vacation. Math is everywhere. It shows up where you're least expecting. Even though you may be used to thinking about math only in school, I want you to realize that you see math in most aspects of your life. Math can be really fun when you can start to see where you never did before.

Directions:

1. You may solve each problem in the space provided. If you need more space, you may do work on a separate sheet of paper; write the number and letter for which your solution goes. Your work must be done in pencil, not ink, and be neatly labeled and well organized so that it is easy to follow. You may use colored pencils if you want. You may also use graph paper as needed and attach it in the answer space.
2. Some questions require written explanations as part of the solution. You may also include additional written responses to support mathematical calculations or reasons for choosing a particular solution method. All explanations must use complete sentences. Be clear and concise in your responses in order to receive credit. Please write clearly!
3. Some questions have multiple parts (within the multiple parts). Be sure to answer each part.
4. You may use a calculator to check your work but you must show all work and computations leading to your final answers. Include general formulas that you use before making substitutions and calculations as part of your solutions.
5. The assignment will be due at the end of the first week of school (either Thursday or Friday). The due date will be announced on the first day of school.
6. The assignment counts as a homework grade. Part of the grade is given for completion (10 points) and part is given for accuracy (15 points).

Name: _____

Completion: _____

Accuracy: _____

Total Score: _____

1. Simplify the following. Show all work. Fractions must be written in simplest form.

a. $5(8-2)+3-8\div 2$

b. $62.5+8.14$

c. 17.4×28.26

d. $5\frac{1}{4}-3\frac{2}{5}$

e. $15\frac{1}{6}\div 4\frac{3}{4}$

f. $87.48\div 5.4$

g. $7\frac{3}{4}+9\frac{2}{3}$

h. $6\frac{7}{8}\cdot 3\frac{2}{5}$

i. $13.41-8.579$

2. Find the prime factors of 48.

3. Solve for the unknown. Use the method taught in class and show all work.

a. $6 + x = 8$

b. $x + 8.75 = 16$

c. $\frac{4}{x} = \frac{6}{21}$

d. $-5x + 2 = 17$

e. $-2.4 = \frac{x}{3.1}$

f. $\frac{1}{2} + x = \frac{3}{5}$

4. Solve the inequalities. Use the method taught in class and show all work. Then graph your answer.

a. $5 + x < -19$

b. $-4x \geq 20$

c. $6 \leq x + 9$

5. You have a box containing 6 red ribbons, 4 blue ribbons, 3 green ribbons, and 2 white ribbons. Find the probabilities assuming you do not replace the ribbon for multiple pulls.

a. P (red)

b. P (pink)

c. P(green or white)

d. P (orange)

e. P (red, red)

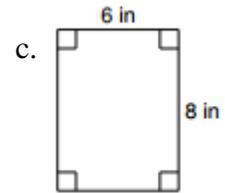
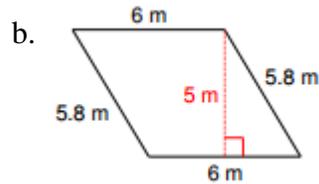
f. P (green, white)

6. Graph the following values on the number line.

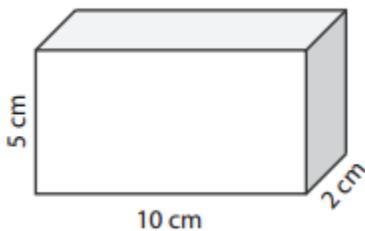
8, 2, -5, 4, 0, -7



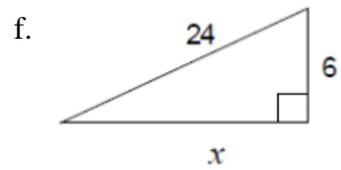
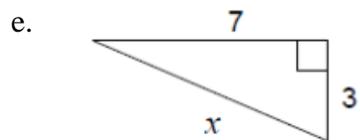
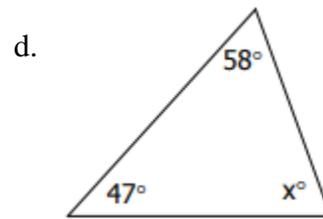
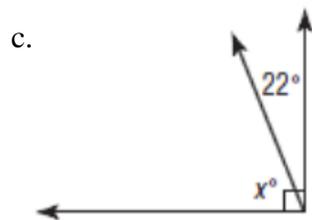
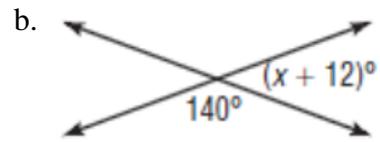
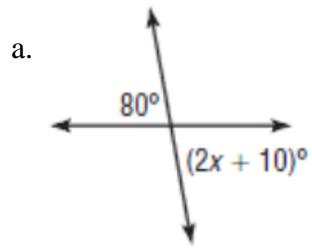
7. Find the perimeter and area of the following shapes. Show all work. Use correct units in your answer.



8. Find the surface area and volume of the rectangular prism. Show all work and use correct units in your answer.



9. Solve for the unknown. Use equations as part of your solution.



10. Before going to the beach you want to get some new clothes. Since it's already summer, the malls are having fantastic sales on their summer stock. You make a list of the things you want to get while the prices are really good.

a. All bathing suits are marked down 30%. The original ticket price on a suit you like is \$36. What is the decimal equivalent of the discount? What is the actual discounted amount?

b. You find a beach towel that was originally \$22 and is now marked down to \$18. What is the percent decrease in the price?

c. A pair of sunglasses is marked down to \$15 from its original price of \$24. If the sales tax is 6% what is the price you will pay?





11. You're thinking of setting up a lemonade stand in your neighborhood.

a. On the first day you had 30 customers. Each cup contained 8 fluid ounces of lemonade. Using dimensional analysis, how many gallons of lemonade did you use for the 30 customers? Round to the nearest tenth if necessary.

b. If on the first day you made \$22.50 from the 30 customers, how much did you charge each customer? Write your answer in scientific notation.

c. On the second day, you decide that you like mixing ice tea mix with the lemonade, and your mixture is $\frac{3}{5}$ lemonade and $\frac{2}{5}$ iced tea. If you still use the 8 fluid ounce cups, how many of the 8 ounces is lemonade? If you made a 48 fluid ounce container, how many of the 48 ounces is lemonade? What percent of the drink is iced tea?

d. On the third day, you have 3 gallons of lemonade, and 2 gallons of the mixed lemonade and iced tea. If your customers don't care which drink they get and you give them either lemonade, or the lemonade/iced tea mixture at random, what percent of the time should they expect to get lemonade?

12. Your best friend is having a pool party. The pool is rectangular, 27 feet long by 15 feet wide, and has an average depth of 8 feet.

a. What is the perimeter of the pool in feet?



b. If the pool is completely full of water, what is the volume of the water in the pool in cubic feet?

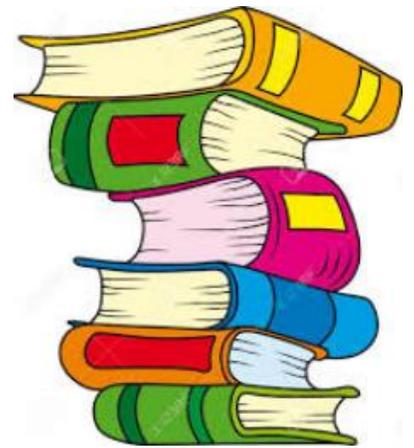
c. Your friend watched as her father filled the pool. When it was one-third full, he said there was approximately 8000 gallons. How many gallons were used to completely fill the pool?

d. Your friend said they just had the pool repainted over the summer. Find the surface area of the pool that was painted. (Be careful with this one.)

13. You got a part time job working in the library. At the end of each day, one of your responsibilities is to sort how many of each types of books were checked out. Of course you know that all books are separated into fiction and non-fiction. In the fiction category, you are keeping track of drama, mystery, poetry and science fiction genres. In the non-fiction category, you are keeping track of biographies, self-help, and travel genres. All books can be checked out as hard copy, or electronic. The computer keeps track of which books are checked out, and lets you sort by genre.

Book Type	Number of Books
Biographies	14
Drama	28
Mystery	17
Poetry	2
Science Fiction	14
Self-Help	5
Travel	11

a. Draw a stem-and-leaf plot.



b. Calculate the mean, mode, median, and range of the set of numbers.

c. Draw a box-and-whisker plot.

d. Use the information from your box-and-whisker plot to determine if outliers exist.