St. Luke's Middle School Summer Math 2020

Summer learning loss is real. Research shows on average, students can lose up to 2.6 months of learning over the summer months. But the summer slide can be lessened with a few minutes of practice each week. Here are some practical ways to help your student retain what they've learned.

- **Highlight the math in every day activities.** When shopping, ask your child to calculate change or discounts. When watching a baseball game, talk about what players' statistics mean. When cooking, have students halve or double a recipe, and figure out the new proportions.
- **Play math games.** Games like Yahtzee, Racko, Blokus, Monopoly, and Set all rely on skills necessary for math, such as counting, categorizing, and building. Even playing with blocks and assembling jigsaw puzzles can help kids learn spatial skills and recognize patterns.
- **Find small ways to practice math at home.** While worksheets alone won't solve summer math slump, small amounts of practice with basic formulas can help.

To help students return in September ready to launch into new learning, we are providing this **math packet** which reviews important skills at an appropriate grade level. The work is divided into 8 weekly sections, of about one hour's work time. Most students will do this in less than an hour. Students should show their work in the space provided by each problem. No calculator use, please.

The packet will be collected at the start of school and be counted as two homework assignments. This material will also be reviewed during the first week of school and students will take a short quiz on this material.

Additionally, we are asking the students to work on **IXL** for a minimum of 3 hours this summer. This time should be spent doing "Recommendation" problems or they may work on a particular skill. Students must work at an appropriate grade level or higher if they desire. We are providing a log so students can easily keep track of the time on IXL. These three hours will count as an "independent" grade when students return. Students may, of course, spend more time on IXL if they desire.

Have a wonderful summer!

Name _____

IXL Summer Work Log

Date	Skill or "Recommendation"	Skill Level	Time

Directions: Please show the date you work on IXL. In the second column, indicate if you are working "recommendations" (located under "Learning") or if you decide to work a particular skill. If you do work a skill, it must be at an appropriate level, (Level 7 or J or higher). Show the skill level in the third column. Show the time worked in the 4th column.

Week 1 Incoming 7th Grade Name _____

Divisibility

Circle all of the factors of 453,738 from the list to the right. 2 3 4 5 6 8 9 10

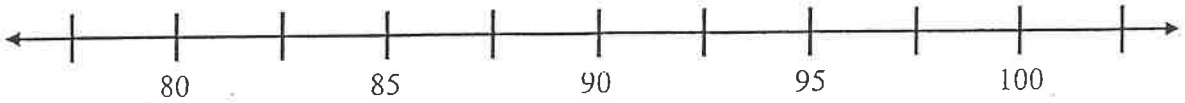
A daycare center has 81 children. Each teacher has the same number of children. How many children could each teacher at the center have?

a) 4 b) 5 c) 6 d) 9

Write a three-digit number that is divisible by 3 and 5. Explain how you know.

Number Line

Place the following numbers on the number line 85, 93, 102, 79, 88



Order of Operations

$43 - 21 \div 3 \bullet 5$

Decimal Operations

$36.12 + 5.793$

$42.75 - 26.36$

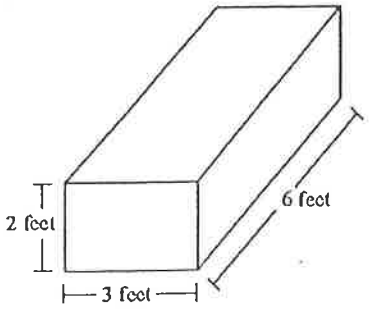
$0.91 \bullet 2.7$

$1.25 \div 5$

Geometry

What is the surface area of the prism?

a) 11 ft^2
b) 36 ft^2
c) 72 ft^2
d) 360 ft^2



Round to the tenths place: 793.83219

Fractional Operations

Compute.

$\frac{1}{5}+\frac{3}{4}$

$\frac{7}{9}-\frac{1}{3}$

$\frac{3}{4}*\frac{2}{15}$

$\frac{2}{3}\div\frac{4}{9}$

Now Try This

1) List all the factors of 48.

2) List all the factors of 64.

3) What are the common factors of 48 and 64?

4) What is the greatest common factor of 48 and 64?

Week 2 ~ Incoming 7th Grade Name _____

Divisibility

Circle all of the factors of 140,625 from the list below. 2 3 4 5 6 8 9 10

A teacher is preparing a test. She wants to put the same number of questions on each page. If the test will have 12 questions, how many questions could the teacher put on each page?

a) 4 b) 5 c) 9 d) 10

Write a three-digit number that is divisible by 5 and 6. Explain how you know.

Number Line

Place the following numbers on the number line. 0.3, 4.75, 3.5, 3.25, 2.4, 3.05

Order of Operations

$4 + 10(5+7)$

Decimal Operations

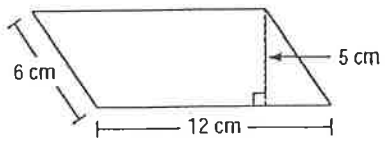
$46.21 + 53.942$ $5.002 - 4.3$

$17.3(15.23)$ $12.6 \div 2.1$

Geometry

What is the area of the parallelogram?

a) 36 cm^2
b) 60 cm^2
c) 72 cm^2
d) 360 cm^2



Round to the tenths place: 9283.192843

Fractional Operations

Compute.

$\frac{3}{8}+\frac{5}{12}$

$\frac{11}{12}-\frac{3}{4}$

$\frac{1}{2}*2\frac{1}{8}$

$10\div\frac{7}{8}$

Now Try This

1) List all the multiples of 8 that are less than or equal to 100.

2) List all the multiples of 12 that are less than or equal to 100.

3) What are the common multiples of 8 and 12 from the two lists?

4) What is the least common multiple of 8 and 12?

5) Lyle noticed that the list of common multiples has a pattern. Describe a pattern in the list of numbers that Lyle might have seen.

Week 3 - Incoming 7th Grade Name _____

Divisibility

Circle all of the factors of 362,880 from the list to the right. 2 3 4 5 6 8 9 10

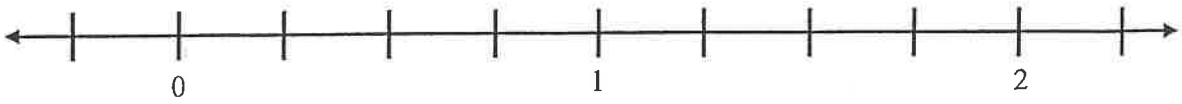
A soda company makes different flavors of soda. Last year, the company produced the same number of bottles of each flavor. If the company produced 774,508 bottles of soda in all last year, how many different flavors could the company make?

a) 3 b) 4 c) 5 d) 10

Write a four-digit number that is divisible by 5 and 9. Explain how you know.

Number Line

Place the following numbers on the number line. $\frac{3}{4}, \frac{4}{2}, \frac{1}{2}, \frac{1}{3}, \frac{3}{3}, \frac{5}{4}$



Order of Operations

$(8 + 1) \bullet 12 - 13$

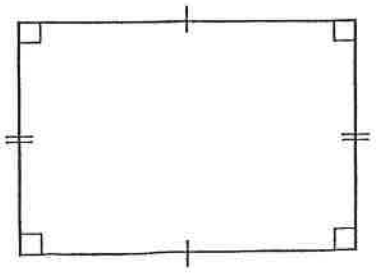
Decimal Operations

$0.51 + 0.209$ $162.8 - 46.96$

$1.67 \bullet 3.2$ $4 \div 25$

Geometry

Name this figure. Explain how you know.



Round to the nearest hundredths place: 832.9432

Fractional Operations

Compute.

$5\frac{1}{3}+3\frac{2}{3}$

$6\frac{11}{12}-4\frac{5}{12}$

$2\frac{3}{4}\times 1\frac{2}{3}$

$3\frac{1}{5}\div 2\frac{2}{3}$

Now Try This

Use the computation shown on the right to find the products listed below. Explain how you know.

1) 189×16

2) 80×16

3) 9×16

$$
\begin{array}{r}
189 \\
16\overline{)3024} \\
\underline{16} \\
142 \\
\underline{128} \\
144 \\
\underline{144} \\
0
\end{array}
$$

Week 4 ~ Incoming 7th Grade Name _____

Divisibility

Circle all of the factors of 4,782,969 from the list to the right. 2 3 4 5 6 8 9 10

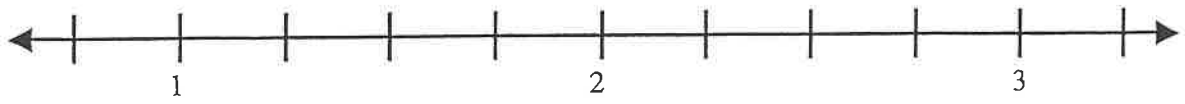
Bob is arranging 45 pictures in a scrapbook. He wants to put the same number of pictures on each page. How many pictures could Bob put on each page of the scrapbook?

a) 2 b) 4 c) 5 d) 6

Write a four-digit number that is divisible by 3 and 8. Explain how you know.

Number Line

Place the following numbers on the number line. $1\frac{1}{3}$, $2\frac{1}{2}$, $1\frac{5}{6}$, $1\frac{3}{4}$, $2\frac{4}{8}$



Order of Operations

$130 \bullet 4 - 228$

Decimal Operations

$0.852 + 0.9$

$346.8912 - 29.98764$

4.4×2.727

$0.468 \div 6.5$

Geometry

A tissue box is a

a) Cube
b) Rectangular prism
c) Square pyramid
d) Rectangular pyramid

Round to the nearest hundredths place: 2832.45943

Fractional Operations

Compute.

$\frac{5}{9}+2\frac{3}{4}$

$8\frac{6}{7}-5\frac{1}{5}$

$7\frac{3}{4}\bullet 2$

$1\frac{1}{8}\div 2\frac{2}{5}$

Now Try This

A runner ran 20 miles in 150 minutes. If she runs at that speed,

1) How long would it take her to run 6 miles?

2) How far could she run in 15 minutes?

3) How fast is she running in miles per hour?

4) What is her pace in minutes per mile?

Week 5 ~ Incoming 7th Grade Name _____

Divisibility

Circle all of the factors of 118,098 from the list to the right. 2 3 4 5 6 8 9 10

A candle factory needs an order of 4,356 scented candles. The factory will ship the candles in several boxes. Each box must contain the same number of candles. How many boxes could the factory use for the order? Select all possible answers.

☐ 2 ☐ 4 ☐ 6 ☐ 9

Circle all of the factors that 40 and 120 have in common from the list below.

2 3 4 5 6 8 9 10

Number Line

Build your own number line that is appropriate for the given numbers. You DO NOT need to use all of the marks on the number line. Then place the following numbers on the number line.

4.3, 5, 3, 3.5, 4.25, 3.7

Order of Operations

$100 - 16 \cdot 5 + 2 - 3$

Decimal Operations

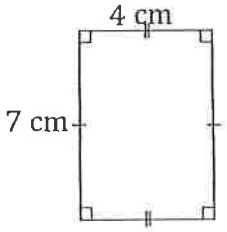
$19.2 + 31.82$ $67.15 - 24.302$

$44.84(9.84)$ $315.6 \div 0.789$

Geometry

Find the area and perimeter.

$A =$_____ $P =$ _____



The value of the 4 in 4.7 is_____times the value of the 4 in 5.4.

a) 1 b) 10 c) 100 d) 1,000

Fractional Operations

Compute.

$9\frac{3}{4}+7\frac{7}{8}$

$9-5\frac{5}{6}$

$\left(\frac{3}{4}\right)\left(\frac{2}{6}\right)\left(\frac{5}{10}\right)$

$3\frac{3}{5}\div 1\frac{1}{5}$

Now Try This

Sophia's dad paid $43.25 for 12.5 gallons of gas. What is the cost of one gallon of gas?

Week 6 - Incoming 7th Grade Name _____

Divisibility

Circle all of the factors of 1,234,567,890 from the list to the right. 2 3 4 5 6 8 9 10

Last year, the Sweet Treats Candy Company produced 485,000 candy bars, and there were the same number of each type of candy bar. How many different types of candy bars could have been produced? Select all possible answers.

☐ 3 ☐ 4 ☐ 6 ☐ 10

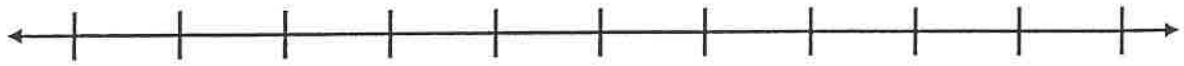
Circle all of the factors that 75 and 81 have in common from the list below.

2 3 4 5 6 8 9 10

Number Line

Build your own number line that is appropriate for the given numbers. You DO NOT need to use all of the marks on the number line. Then place the following numbers on the number line.

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



Order of Operations

$100 \div 5^2 \bullet 4^3$

Decimal Operations

$19.2 + 31.82$

$78.9 - 55.779$

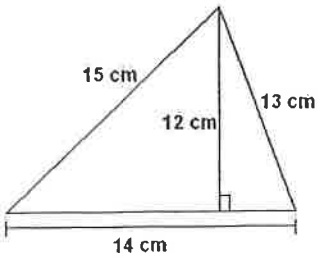
6.811×4.997

$454.73 \div 0.004$

Geometry

Find the area and perimeter.

$A =$ _____ $P =$ _____



The value of the 2 in 6.297 is ____ times the value of the 2 in 2.967.

a) 10 b) 1 c) $\frac{1}{10}$ d) $\frac{1}{100}$

Fractional Operations

Compute.

$12\frac{18}{48}+9\frac{18}{24}$

$21\frac{3}{8}-4\frac{1}{2}$

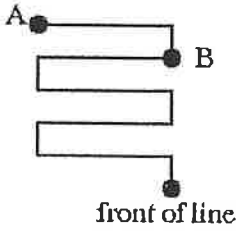
$7\frac{2}{3}*2\frac{1}{7}$

$9\frac{1}{2}\div 2\frac{5}{8}$

Now Try This

Alysha really wants to ride her favorite ride at the amusement park one more time before her parents pick her up at 2:30 pm. There is a very long line at this ride, which Alysha joins at 1:50 pm (point A in the diagram below). Alysha is nervously checking the time as she is moving forward in the line. By 2:03 she has made it to point B in line.

What is your best estimate for how long it will take Alysha to reach the front of the line? If the ride lasts 3 minutes, can she ride one more time before her parents arrive?



Week 7- Incoming 7th Grade Name _____

Divisibility

Circle all of the factors of 360,000 from the list to the right. 2 3 4 5 6 8 9 10

984,060 viewers voted for the favorite contestant on a TV show. Each of the contestants received the exact same number of votes. How many contestants could there have been on the TV show? Select all possible answers.

☐ 2 ☐ 4 ☐ 9 ☐ 10

Circle all of the factors that 36 and 64 have in common from the list below.

2 3 4 5 6 8 9 10

Number Line

Build your own number line that is appropriate for the given numbers. Make sure that your tick marks are evenly spaced on the line and clearly labeled. Then place the following numbers on the number line.

6, 5.75, 5.7, 5.07, 5.4, 5.35

Order of Operations

$45 \div 9 - 3 + 2 \bullet 3$

Decimal Operations

$8.1 + 268 + 49.64$

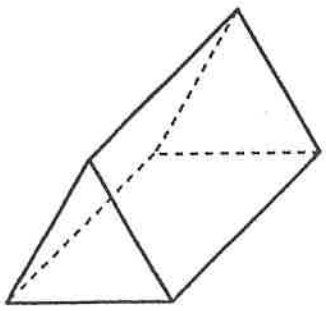
$58 - 45.183$

$0.01 \bullet 0.167 \bullet 0.9$

$2.072 \div 5.6$

Geometry

Name the base of this three-dimensional solid.



The value of the 3 in 3.7 is ____ times the value of the 3 in 5.83.

a) 1 b) 10 c) 100 d) 1,000

Fractional Operations

Compute.

$9\frac{8}{15}+11\frac{5}{12}$

$1\frac{1}{6}-\frac{3}{4}$

$3\frac{5}{6}*2\frac{1}{4}$

$25\frac{1}{2}\div 4\frac{1}{4}$

Now Try This

The 150 students at Skokie School were asked if they prefer seeing the movie *Hunger Games* or *Divergent*. The data showed that 100 preferred *Hunger Games* and 50 preferred *Divergent*.

Look at the following statements and decide if each accurately reports the results of the survey and explain *how you know.*

a. At Skokie School, ⅓ of the students prefer *Hunger Games*.

b. Students prefer *Hunger Games* to *Divergent* in a ratio of 2 to 1.

c. The ratio of students who prefer *Divergent* to students who prefer *Hunger Games* is 1 to 2.

d. The number of students who prefer *Hunger Games* is 50 more than the number of students who prefer *Divergent*.

e. The number of students who prefer *Hunger Games* is two times the number of students who prefer *Divergent*.

Week 8 - Incoming 7th Grade Name _____

Divisibility

Circle all of the factors of 262,144 from the list to the right. 2 3 4 5 6 8 9 10

A company printed 180,510 flyers for its sales people. Each sales person received the same number of flyers. How many sales people could there be? Select all possible answers.

☐ 2 ☐ 3 ☐ 5 ☐ 9

Circle all of the factors that 240 and 360 have in common from the list below.

2 3 4 5 6 8 9 10

Number Line

Build your own number line that is appropriate for the given numbers. Make sure that your tick marks are evenly spaced on the line and clearly labeled. Then place the following numbers on the number line.

$$2\frac{4}{5},\ \frac{1}{4},\ 1\frac{3}{4},\ \frac{5}{3},\ \frac{1}{5},\ \frac{6}{4}$$

Order of Operations

$$(5^2 + 3^3) \bullet (81 + 9) \div 10$$

Decimal Operations

$8.9 + 2.14 + 7.1$

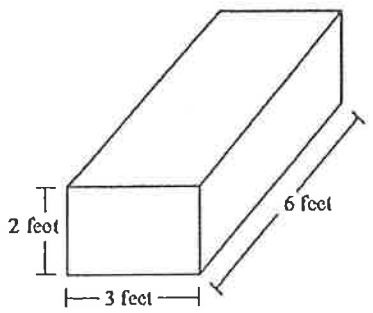
$20 - 14.8 - 0.018$

$(62.09)\ (8.4)$

$352.03 \div 74.9$

Geometry

Find the volume.



The value of the 5 in 3.5 is ____ times the value of the 5 in 2.75.

a) 1 b) 10 c) 100 d) 1,000

Fractional Operations

Compute.

$6\frac{3}{51}+3\frac{1}{17}$

$5\frac{1}{6}-4\frac{7}{12}$

$11\frac{1}{3}*\frac{6}{17}$

$38\frac{5}{6}\div 5\frac{1}{3}$

Now Try This

Paul bowled 6 games today. His scores are listed in the table to the right.

1) What was Paul's median score for the 6 games?

Paul's Bowling Scores

Game	Score
1	158
2	124
3	110
4	167
5	146
6	165

2) What was Paul's mean score for the 6 games?

3) Paul will bowl one more game. What is the minimum score Paul must achieve in the next game so that his mean score for all 7 games is at least 150?