The Village School's
Rising 7th Grade
Math Packet

The following pages contain optional activities for you to complete for the first day of school in August. This packet is optional and will not be graded.

Name _____

Rising 7th Grade Summer 2021 Optional Math Packet

Welcome to 7th grade mathematics at The Village School. This packet consists of important concepts necessary for success in 7th grade math.

Operations with Fractions

1. Simplify each fraction:

a.) $\frac{35}{49}$ =

b.) $\frac{75}{4}$ =

c.) $4\frac{6}{20}$ =

d.) $\frac{12}{15}$ =

2. Add:

a.) $\frac{2}{3} + \frac{1}{21}$ =

b.) $\frac{9}{12} + \frac{3}{8}$ =

c.) $\frac{4}{7} + \frac{9}{28}$ =

d.) $4\frac{5}{8} + 3\frac{2}{3}$ =

e.) $2\frac{5}{6} + 3\frac{7}{15}$ =

f.) $5\frac{7}{8} + 9\frac{2}{3}$ =

3. Subtract:

a.) $\frac{5}{6} - \frac{2}{3}$ =

b.) $\frac{3}{4} - \frac{4}{7}$ =

c.) $\frac{8}{9} - \frac{3}{8}$ =

d.) $1\frac{5}{12} - \frac{3}{4}$ =

e.) $4\frac{5}{8} - 1\frac{9}{12} =$ f.) $3\frac{1}{3} - 1\frac{9}{10} =$ g.) $6\frac{3}{4} - 2\frac{7}{8} =$ h.) $5 - \frac{17}{20} =$

4. Multiply:

a.) $\frac{1}{3} \times \frac{3}{5} =$ b.) $\frac{3}{8} \times \frac{2}{9} =$ c.) $3 \times \frac{5}{8} =$ d.) $\frac{4}{15} \times 5 =$

e.) $8\frac{2}{5} \times 3\frac{2}{3} =$ f.) $5\frac{5}{8} \times 2\frac{1}{5} =$ g.) $7\frac{1}{4} \times 6\frac{5}{9} =$

5. Divide:

a.) $\frac{1}{2} \div \frac{3}{8} =$ b.) $\frac{9}{10} \div \frac{3}{5} =$ c.) $9 \div \frac{4}{5} =$ d.) $\frac{2}{3} \div 4 =$

e.) $2\frac{1}{2} \div \frac{5}{8} =$ f.) $\frac{7}{8} \div 8\frac{1}{8} =$ g.) $3\frac{5}{6} \div 2\frac{2}{3} =$

Decimal Operations

1. Add:

a.) 7.096 + 1.72 =   b.) 1.002 + 34.06 =   c.) 3.1 + 0.03 =

d.) 23.48 + 308.102 =   e.) 893.998 + 297.123 =

2. Subtract:

a.) 237.05 - 75.008 =   b.) 10.056 - 6.8671 =   c.) 30.09 - 6.348 =

d.) 1000.1 - 99.999 =   e.) 207.13 - 13.29 =

3. Multiply:

a.) 34.92 X 12.3 =   b.) 135.707 X 2.48 =   c.) 0.937 X 2.13 =

d.) 50.31 X 0.87 =   e.) 289.06 X 0.483 =

4. Divide:

a.) 60.3 ÷ 0.3 =   b.) 237.5 ÷ 2.5 =   c.) 7.32 ÷ 8 =

d.) 1008 ÷ 0.09 =   e.) 1.354÷ 0.16 =

Order of Operations

1.) $8 + \dfrac{(12-8)^2}{2} =$

2.) $89 - 4^2 \times 4 + 12 =$

3.) $6 \times (36 \div 12)^2 + 8 =$

4.) $320 \div \left(\dfrac{(4+2)^2}{4}\right) - 7 =$

5.) $6 + 3(13 - 2) - 5^2 =$

One-step Equations

1.) $32 + a = 64$ 2.) $716 + d = 929$ 3.) $g - 57 = 177$ 4.) $c + 0.92 = 1.78$

a = _____   d = _____   g = _____   c = _____

5.) 3y = 36   6.) $\frac{x}{15}$ = 7   7.) 0.36k = 4.32   8.) $\frac{y}{3.2}$ = 38.4

y= _____   x= _____   k= _____   y= _____

Integers

Compare the following integers using these symbols > < = .

1.) -9 _____ 2   2.) 0 _____ 5   3.) 3 _____ -7

4.) -1 _____ -3   5.) -2 _____ -6

Find the absolute value.

1.) $|-5|$ = _____   2.) $|7|$ = _____   3.) $|-232|$ = _____

4.) $|52|$ = _____   5.) $|-14|$ = _____

Complete the following statements.

Write the integer that describes 17 feet below sea level _____

The temperature is 14 degrees below zero. _____

Frank withdrew $272 from his account. _____

Surface Area

1.) Kevin needs to buy some cardboard to build a box 12 inches long, 8 inches wide, and 10 inches high. How much cardboard is needed to build the box?

Answer:_____

2.) Alice wants to wrap a gift box of length 8 inch, height 6 inch, and width 4 inch. How much wrapping paper does Alice need to buy?

Answer:_____

3.) Calculate the surface area and volume the rectangular prism with a length of 10 feet, a width of 6 feet, and a height of 4 feet.

Answers:_____

4.) Find the surface area and volume of a cube of side 16 meters?

Answer:_____

5.) Calculate the surface area and volume of a cube of side 12 meters?

Answer:_____

6.) A rectangular prism is 16 centimeters long, 8 centimeters wide, and 5 centimeters tall. What is the surface area and volume of the prism?

Answers:_____

GCF and LCM

Find the GCF and LCM for the following numbers. Use the rainbow, factor trees or the ladder method and show your work.

1.) 8, 32   2.) 15, 12

3.) 15, 30, 50   4.) 48, 36

PERCENTS

Complete the table:

Fraction (in simplest form)	Decimal	Percent
½		
	.25	
¾		
		33%
	.4	
⅘		

Ratios and Proportions

1.) Are the ratios 45:33 and 9:5 equivalent? _____
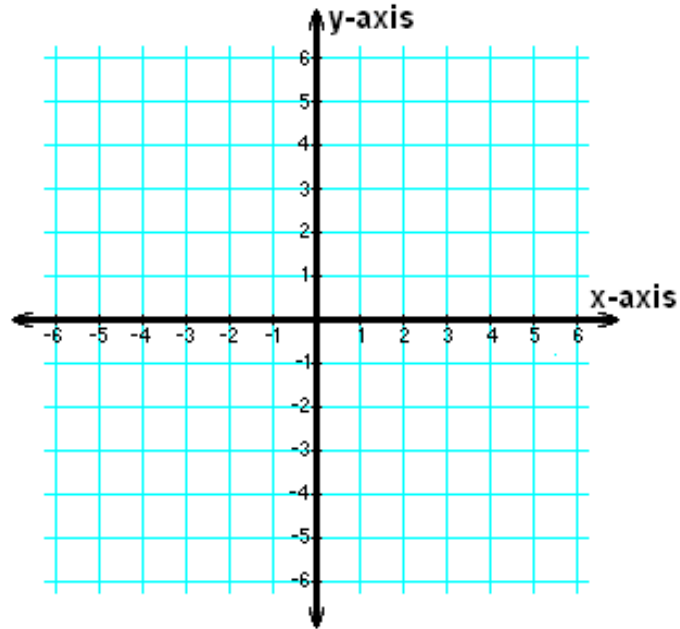
2.). Are the ratios 5:7 and 15:21 equivalent? _____

3.) $\frac{2}{n} = \frac{3}{24}$ n = _____

4.) $\frac{2}{3} = \frac{18}{n}$ n = _____

5. $\dfrac{n}{9} = \dfrac{12}{27}$ n = _____

The Coordinate Plane

Graph each point: A(2,0), B(-3,-4), C(2,-5), D(-1,4), E(1,2), F(0,-3)

Ratios, Recipes And Treats...Oh My!

For this optional STEAM activity, you will be using your knowledge of ratios to create a delicious, sweet treat!

Some points to consider when completing this STEAM activity:

- Find a recipe for one of your favorite sweets and double each ingredient in the recipe. Make sure to clearly state the original recipe and then state how it differs after each ingredient is doubled.

- Once your recipe is doubled, you should cook the treat and take a picture or video of you eating your culinary masterpiece! This picture should be included in your write-up of this activity.

- When completing this activity, please be careful as you will be using an oven to bake your treats. Parental discretion is advised to prevent any kitchen disasters! 😄

Name: _____

Ratios, Recipes And Treats...Oh My!
Write-Up

| Original Recipe	Doubled Recipe
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.

Rate That Trip!

For this optional STEAM activity, you will be using your knowledge of rates to plan a road trip around the United States!

Some points to consider when completing this STEAM activity:

- You will begin your road trip in Naples, FL and end in San Francisco, CA. You are driving in a car traveling at a rate of 80 mph and the distance between Naples and San Francisco is about 3,000 miles.

- Pace your trip out appropriately and plan some stops along the way to see some cool things!
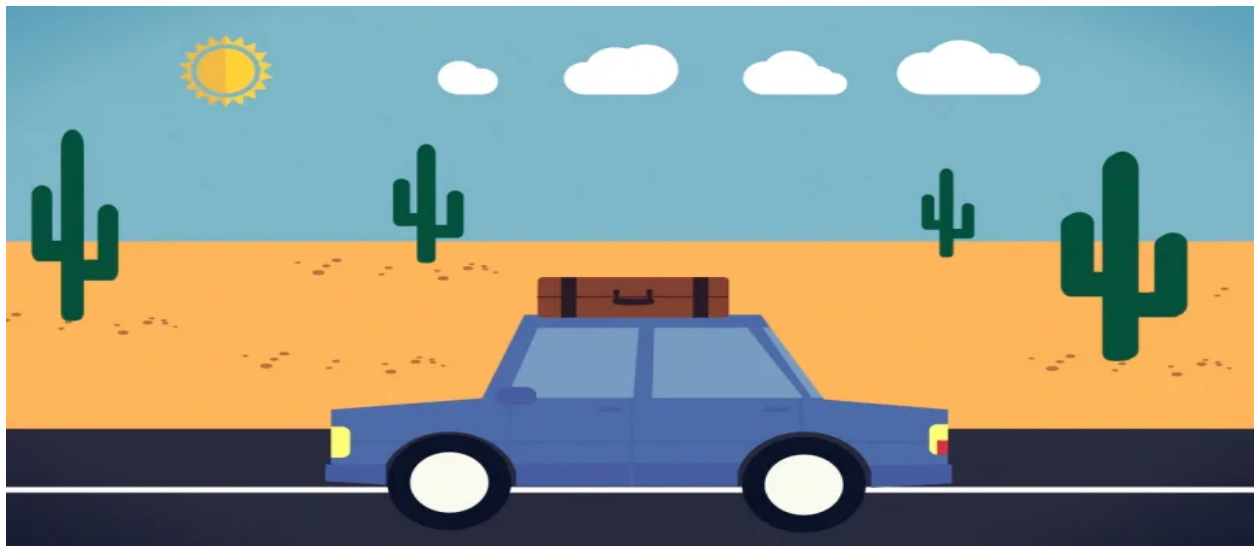
Menu Madness

For this optional STEAM activity, you will be using your knowledge of percents and decimals to create your very own restaurant menu!

Some points to consider when completing this STEAM activity:

- Create a menu for your restaurant, including an entree for breakfast, lunch and dinner. Make sure to price each item appropriately, having each entree at a different price.

- Format your menu in any way you'd like! You can use a format that you've seen in a restaurant or develop your very own, be creative and have fun with it!

- With your completed menu, pretend as if three customers walked in. One buys the breakfast entree, the second buys the lunch entree, and the last buys a dinner entree. Calculate how much money your restaurant will be making in total. Also, calculate tip amounts for your servers (20% for breakfast, 18% for lunch and 15% for dinner) using your set menu prices.