Rising 6th Grade
Summer Math Packet

Name: _____

WEEK 1

Complete each of the problems below. SHOW YOUR WORK.

Basic Operations:

$425 + 309 =$

$813 - 472 =$

$64 \cdot 97 =$

$8652 \div 12 =$

Reduce the following fractions to lowest terms.

$\frac{20}{30} =$

$\frac{12}{18} =$

$\frac{4}{36} =$

$\frac{17}{34} =$

$\frac{18}{20} =$

$\frac{2}{14} =$

$\frac{22}{50} =$

$\frac{16}{40} =$

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List the first 10 multiples (starting with the number itself) for the numbers below.

7:

11:

12:

8:

List all of the factors for the numbers below.

24:

30:

50:

32:

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WEEK 1: STOP AND THINK PROBLEMS

Your turn to play teacher. Each of the problems below has been solved incorrectly. Go through the work carefully to identify the mistake and then solve the problem correctly.

$84 \cdot 56 = 924$

$$\begin{array}{r} {}^{1}{}^{2}84 \\ \times 56 \\ \hline 504 \\ +420 \\ \hline 924 \end{array}$$

$3024 \div 8 = 478$

$$\begin{array}{r} \times 478 \\ \hline 8\overline{)3024} \\ -24\downarrow \\ \hline 62 \\ -56\downarrow \\ \hline 64 \\ -64 \\ \hline 00 \end{array}$$

Jenny has 40 feet of wooden fencing to use for the perimeter of her garden. Using all 40 feet of fencing and only whole numbers, what measurements (length and width) would give her the LARGEST AREA and the SMALLEST AREA for her garden?

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WEEK 2

Complete each of the problems below. SHOW YOUR WORK.

Basic Operations:

$1708 + 821 =$

$905 - 238 =$

$53 \cdot 28 =$

$1836 \div 9 =$

Change the following fractions from improper fractions (fractions greater than 1) to mixed numbers or mixed numbers to improper fractions.

$\frac{24}{7} =$

$\frac{13}{2} =$

$\frac{7}{5} =$

$\frac{18}{9} =$

$3\frac{1}{8} =$

$5\frac{4}{7} =$

$9\frac{1}{11} =$

$4\frac{5}{6} =$

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Fill in the following tables with the corresponding fractions and decimals.

Fraction	Decimal		Fraction	Decimal
$\frac{4}{5}$				0.79
	0.6			0.02
$\frac{7}{20}$			$\frac{12}{16}$	

Quantitative Comparisons: For the question below, determine which column has the greater quantity (A or B). If the quantities in the two columns are equal, write the letter C. If you do not have enough information to determine which column is greater, write the letter D. Make sure to show your work/explain your thinking.

Column A	Column B
$\frac{1}{9}+\frac{3}{8}+\frac{5}{6}$	$\frac{4}{6}+\frac{3}{8}+\frac{1}{9}$

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WEEK 2: STOP AND THINK PROBLEMS

Your turn to play teacher. Each of the problems below has been solved incorrectly. Go through the work carefully to identify the mistake and then solve the problem correctly.

$4^2 + 45 \div 3 - 12 = 11$

$8 + 45 \div 3 - 12$

$8 + 15 - 12$

$23 - 12$

11

$(120 - 14) \div 2 + 8 = 10\text{R}6$

$106 \div 2 + 8$

$106 \div 10$

$10\text{R}6$

Determine the values of *a*, *b*, *c*, and *d*, which are all positive whole numbers, from the following information:

$$a \cdot b = 24$$
$$a + b = 14$$
$$c \cdot d = 48$$
$$a \cdot d = 192$$
$$b \cdot c = 6$$

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WEEK 3

Complete each of the problems below. SHOW YOUR WORK.

Basic Operations:

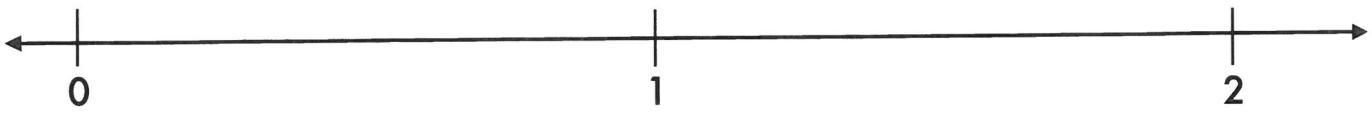
$2389 + 6521 =$

$2571 - 825 =$

$470 \cdot 36 =$

$4368 \div 7 =$

Place the following fractions on the number line below. $\frac{4}{5}, \frac{10}{20}, \frac{3}{2}, \frac{1}{8}, \frac{8}{4}$



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WEEK 3: STOP AND THINK PROBLEMS

Your turn to play teacher. Each of the problems below has been solved incorrectly. Go through the work carefully to identify the mistake and then solve the problem correctly.

$852 \cdot 46 = 39{,}292$

$$\begin{array}{r} \cancel{3}^{2}\,{}^{1}852 \\ \times\ 46 \\ \hline 5112 \\ +34180 \\ \hline 39292 \end{array}$$

$4590 \div 15 = 36$

$$\begin{array}{r} \times\ 36 \\ 15\overline{)4590} \\ -45\downarrow\downarrow \\ \hline 090 \\ -\ 90 \\ \hline 00 \end{array}$$

The digits 1, 2, 3, 4, 5, 6, 7, and 9 are used to form four two-digit prime numbers, with each digit used exactly once. What are the four prime numbers, and what is their sum? (Reminder: A prime number has exactly two factors; one and itself.)

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WEEK 4

Complete each of the problems below. SHOW YOUR WORK.

Basic Operations:

$6324 + 8204 =$

$7512 - 6731 =$

$624 \cdot 18 =$

$7073 \div 11 =$

Compare the following pairs of fractions and decimals using <, >, or =.

$4.2 \bigcirc 4.02$

$13.25 \bigcirc 13.255$

$0.9 \bigcirc 1.0$

$\frac{6}{7} \bigcirc \frac{11}{20}$

$\frac{15}{21} \bigcirc \frac{10}{12}$

$\frac{1}{3} \bigcirc \frac{25}{75}$

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Name the following decimals in words.

14.32 _____

_____

9.601_____

_____

Quantitative Comparisons: For the question below, determine which column has the greater quantity (A or B). If the quantities in the two columns are equal, write the letter C. If you do not have enough information to determine which column is greater, write the letter D. Make sure to show your work/explain your thinking.

Column A	Column B
$14.89 + 7.05$	$87.5 - 66.01$

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WEEK 4: STOP AND THINK PROBLEMS

Your turn to play teacher. Each of the problems below has been solved incorrectly. Go through the work carefully to identify the mistake and then solve the problem correctly.

$\frac{7}{15} + \frac{2}{3} = \frac{3}{5}$

$\frac{2}{3 \cdot 5} = \frac{2}{15}$

$\frac{7}{15} + \frac{2}{15} = \frac{9}{15}$

$\frac{9 \div 3}{15 \div 3} = \frac{3}{5}$

$\frac{5}{9} - \frac{2}{7} = \frac{1}{3}$

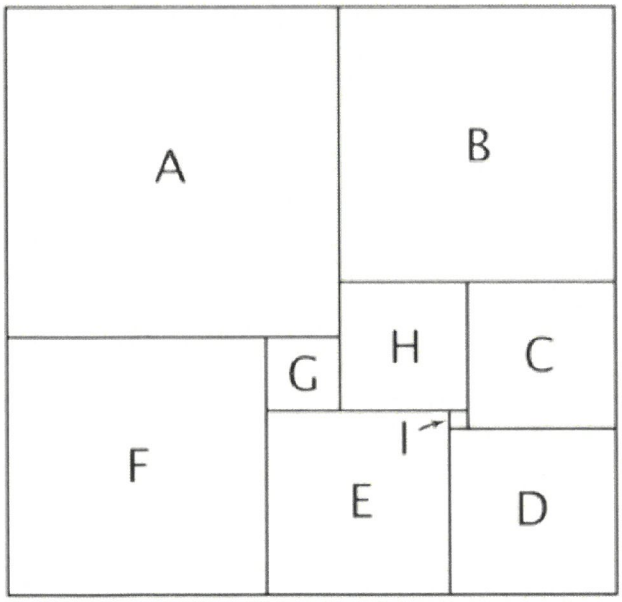
$\frac{5 \cdot 7}{9 \cdot 7} = \frac{35}{63}$

$\frac{2 \cdot 7}{7 \cdot 9} = \frac{14}{63}$

$\frac{35}{63} - \frac{14}{63} = \frac{21}{63}$

$\frac{21 \div 21}{63 \div 21} = \frac{1}{3}$

The entire figure is a rectangle. Each of the lettered polygons is a square. The area of C = 64 square units and the area of *D* = 81 square units. Find the area of the entire rectangle. Show your work by writing in the area of the other lettered squares in the rectangle.



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WEEK 5

Complete each of the problems below. SHOW YOUR WORK.

Basic Operations:

$22{,}175 + 8{,}347 =$

$27{,}362 - 5{,}384 =$

$142 \cdot 79 =$

$1836 \div 9 =$

Add/Subtract the following fractions.

$\frac{7}{8} + \frac{5}{12} =$

$\frac{7}{9} - \frac{15}{27} =$

$\frac{3}{5} + \frac{3}{6} =$

$\frac{13}{15} - \frac{1}{6} =$

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WEEK 5: STOP AND THINK PROBLEMS

Your turn to play teacher. Each of the problems below has been solved incorrectly. Go through the work carefully to identify the mistake and then solve the problem correctly.

$63.409 + 3.87 = 63.796$

$$\begin{array}{r} 63.409 \\ +\ 3.87 \\ \hline 63.796 \end{array}$$

$6.52 - 3.008 = 3.528$

$$\begin{array}{r} 6.52 \\ -\ 3.008 \\ \hline 3.528 \end{array}$$

Colored beads are placed in the following order: 1 red, 1 green; then 2 red, 2 green; then 3 red, 3 green; and so on. In all, how many of the first 100 beads are red?

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WEEK 6

Complete each of the problems below. SHOW YOUR WORK.

Basic Operations:

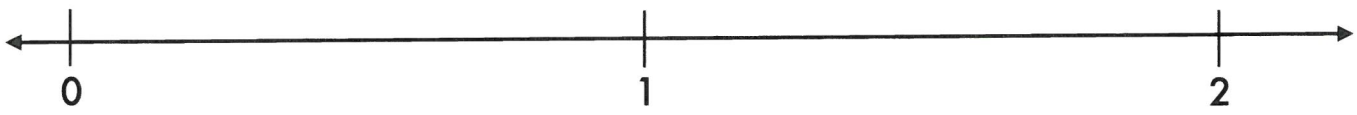
$14{,}026 + 3{,}529 =$

$72{,}136 - 65{,}577 =$

$853 \cdot 127 =$

$4884 \div 12 =$

Place the fractions and decimals on the number line below. $\frac{7}{8}$, 0.25 , $\frac{1}{3}$, 1.75 , $1\frac{6}{12}$



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Quantitative Comparisons: For the question below, determine which column has the greater quantity (A or B). If the quantities in the two columns are equal, write the letter C. If you do not have enough information to determine which column is greater, write the letter D. Make sure to show your work/explain your thinking.

Column A	Column B
The largest factor of 60, besides the number itself	The sum of all of the factors of 16

WEEK 6: STOP AND THINK PROBLEMS:

Your turn to play teacher. Each of the problems below has been solved incorrectly. Go through the work carefully to identify the mistake and then solve the problem correctly.

$2763 \cdot 906 = 265,248$

$$\begin{array}{r} \overset{6}{\cancel{4}}\,\overset{5}{\cancel{3}}\,\overset{2}{\cancel{1}}\, \\ 2763 \\ \times\ 906 \\ \hline 16578 \\ +248670 \\ \hline 265,248 \end{array}$$

$8688 \div 12 = 7440$

$$\begin{array}{r} 7440 \\ 12\overline{)8688} \\ -84 \\ \hline 28 \\ -24 \\ \hline 48 \\ -48 \\ \hline 0 \end{array}$$

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Name: _____

WEEK 7

Complete each of the problems below. SHOW YOUR WORK.

Basic Operations:

$28{,}734 + 66{,}901 =$

$45{,}229 - 37{,}040 =$

$429 \cdot 516 =$

$7404 \div 6 =$

Add/subtract the following decimals.

$24.6 + 1.83 =$

$9.27 - 8.5 =$

$71.02 + 5.384 =$

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List all of the factors for the numbers below.

72:

90:

WEEK 7: STOP AND THINK PROBLEMS

Your turn to play teacher. Each of the problems below has been solved incorrectly. Go through the work carefully to identify the mistake and then solve the problem correctly.

$3 + 12 \div 2 \cdot 7 - 1 = 1R3$

$15 \div 2 \cdot 7 - 1$

$15 \div 2 \cdot 6$

$15 \div 12$

$1R3$

$(38 - 5^2) + 11 \cdot 2 = 48$

$(38 - 25) + 11 \cdot 2$

$13 + 11 \cdot 2$

$24 \cdot 2$

48

Patrick tosses all of his loose change into a jar, which at present contains $14.35. Coincidentally, that $14.35 is made up of an equal number of pennies, nickels, dimes, and quarters, and no other coins. How many of each coin does Patrick have in the jar?

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WEEK 8

Complete each of the problems below. SHOW YOUR WORK.

Basic Operations:

$14{,}026 + 3{,}529 =$

$72{,}136 - 65{,}577 =$

$853 \cdot 127 =$

$4884 \div 12 =$

Add/Subtract the following fractions.

$\frac{5}{9} + \frac{3}{5} =$

$\frac{19}{20} - \frac{4}{5} =$

$1\frac{2}{3} + 4\frac{5}{6} =$

$2\frac{7}{12} - 1\frac{1}{6} =$

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Fill in the following tables with the corresponding fractions and decimals.

Fraction	Decimal		Fraction	Decimal
$\frac{5}{4}$				0.71
	0.09			0.82
$\frac{12}{40}$			$\frac{16}{48}$	

Quantitative Comparisons: For the question below, determine which column has the greater quantity (A or B). If the quantities in the two columns are equal, write the letter C. If you do not have enough information to determine which column is greater, write the letter D. Make sure to show your work/explain your thinking.

Column A	Column B
$2 + 8^2 - 6 - 10$	$(2 + 8)^2 - 6 - 10$

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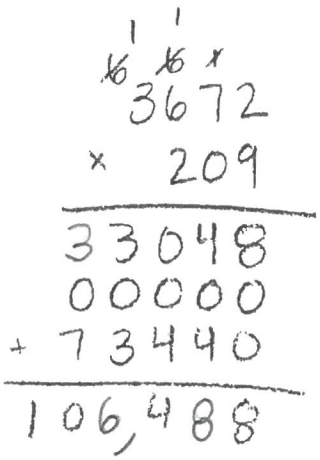
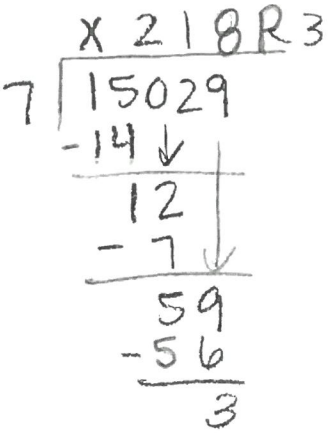
WEEK 8: STOP AND THINK PROBLEMS

Your turn to play teacher. Each of the problems below has been solved incorrectly. Go through the work carefully to identify the mistake and then solve the problem correctly.

$3672 \cdot 209 = 106,488$



$15029 \div 7 = 218R3$



Bobby has a third of the money that Erin has. Erin has $8 less than Mary. Together they have $267. How much money does each of them have?