Name: _____

Date: _____

Summer Enrichment | 7th Grade Math Review

Long-Term Learning Target: I CAN review important math concepts to prepare myself for 8th Grade.

Academic Mindset: I CAN succeed at this. My ability and competence grow with my effort.

Summer is a time for rest and relaxation with your friends and family, a time to unwind from the stress of school. However since your brains are still growing at such a rapid rate, you sometimes can lose everything you worked so hard to achieve during the school year. We don't want that to happen do we? No way!

This summer math homework is designed to help you practice the learning targets you focused on this year, so all that hard work spent in 7th Grade isn't wasted when you get to 8th Grade. It is spaced out over ten weeks each focusing on a specific learning target with an average of three pages per week. If you manage your time wisely, and use the calendar I gave you this will not take that much time.

Do not use a calculator, and for the ones you can't do in your head you must SHOW YOUR WORK.

*Remember, **you CAN do this**. I believe in you.*

If you have any questions please email me!
mariana.schumaker@annunciationk8.org

Week 1 | Addition, Subtraction, Multiplication and Division Review
Week 2 | Adding and Subtracting Decimals Review
Week 3 | Multiplying and Dividing Decimals Review
Week 4 | Converting between Fractions, Decimals, and Percents Review
Week 5 | Adding, Subtracting, Multiplying, and Dividing Positive and Negative Numbers
Week 6 | Exponents and Roots Review
Week 7 | Order of Operations Review and Inverse Operations Review
Week 8 | Steps for Problem Solving Review
Week 9 | Adding and Subtracting Fractions Review
Week 10 | Converting Improper Fractions and Mixed Numbers Review

Week 1 | Addition, Subtraction, Multiplication and Division Review

Learning Target: I CAN add, subtract, multiply, and divide.

Directions: Calculate each sum, difference, product, or quotient

1+2 =	2+13 =	19×14 =	11+12=	5 × 17 =
25-16=	15×13=	20-8=	10×12=	18×6=
12×7=	31-16=	4 + 10 =	26-13=	198÷ 18 =
126÷7=	7+5=	16-15=	3+8=	9+2=
16×4=	12-3=	20+19=	16+11=	27÷3=
17-12=	12-1=	19+15=	32-14=	110÷ 10 =
22÷11=	28-20=	7÷1=	15-14=	10+14=
112÷ 14 =	252÷ 14 =	112÷ 16 =	12+9=	17×3=
10×15=	20÷4=	22-18=	15×12=	3+10=
8+4=	13×10=	14-9=	12-4=	23-16=
9-6=	15+8=	270÷ 18 =	20 × 2 =	17 - 3 =
8-2=	144÷ 16 =	300÷ 15 =	11+12=	10-3=
48÷16=	4+5=	13×4=	15+11=	15÷1=
13+9=	3+7=	8×4=	88÷11=	1×18=
112÷7=	34 ÷ 2 =	11 + 9 =	182÷ 14 =	6 × 19 =
7- 4=	17- 10=	18+ 11=	160÷ 10 =	12 × 16 =
15 × 1 =	112÷ 14 =	10+9=	9-6=	15+2=
10×10=	8×3=	3 + 15 =	7-2=	14×8=
13-8=	1+6=	2 + 19 =	22-12=	60÷20=
323÷ 19 =	16 - 8 =	52 ÷ 13 =	195÷ 15 =	25 - 19 =

Directions: Calculate each sum

236 + 260 =   151 + 897 =   802 + 776 =   180 + 620 =   961 + 649 =

Directions: Calculate each difference

5800 - 833 =   8533 - 886 =   7151 - 186 =   5042 - 796 =

Directions: Calculate each product

529 x 65 =   279 x 86 =   300 x 73 =   101 x 67 =   904 x 51 =

616 x 41 =   604 x 88 =   187 x 59 =   720 x 89 =   860 x 22 =

Directions: Calculate each quotient

5476/74   6270/66   6708/78   8624/98

2112/96   4085/43   1870/43   420/42

Week 2 | Adding and Subtracting Decimals Review
Learning Target: I CAN add, and subtract decimals.

Directions: Calculate each sum

1.33 + 9.41 =   6.14 + 6.94 =   6.86 + 1.41 =   6.78. + 4.10 =

5.49 + 5.41 =   1.40 + 3.11 =   1.56 + 5.09 =   8.77 + 5.34 =

4.74 + 5.61 =   2.76 + 6.08 =   7.25 + 9.27 =   9.15 + 4.53 =

Directions: Calculate each difference

48.8 - 5.2 =   11.9 - 8.2 =   18.3 - 5.1 =   84.7 - 6.8 =   73.7 - 4.8 =

48.6 - 5.3 =   13.6 - 9.3 =   26.5 - 5.4 =   92.4 - 2.6 =   87.1 - 7.7 =

66.7 - 1.7 =   54.2 - 8.2 =   60.9 - 3.6 =   11.2 - 3.1 =   94.6 - 4.2 =

Week 3 | Multiplying and Dividing Decimals Review
Learning Target: I CAN multiply and divide decimals.

Directions: Calculate each product

19.1 x 56 =   16.4 x 13 =   39.2 x 16 =   16.1 x 34 =   61.9 x 28 =

72.9 x 65 =   68.6 x 48 =   87.6 x 83 =   62.1 x 68 =   84.0 x 52 =

9.5 x 0.86 =   4.3 x 9.5 =   5.8 x 4.6 =   4.1 x 0.23 =   0.31 x 4.6 =

Directions: Calculate each quotient

6.5/9   9.29/6   5.8492/5   0.5/2   1.5/4

3.6297/9   1.9/7   499.29/5   467.22/7   171.36/4

Week 4 | Converting between fractions, decimals, and percents.

Learning Target: I CAN convert between fractions, decimals, and percents and use several strategies to solve problems involving these.

Directions: Convert each Decimal to a Percent

0.465 =	1.88 =	0.54 =	0.648 =
1.7 =	0.5 =	0.75 =	0.943 =

Directions: Convert each Percent to a Decimal

82% =	54% =	153% =	87% =
176% =	73.2% =	137% =	49.1% =

Directions: Convert each Fraction to a Decimal

24/25 =	33/20 =	53/50 =	1/4 =
30/50 =	64/50 =	5/8 =	14/20 =

Directions: Convert each Fraction to a Percent

23/25 =	13/20 =	1/4 =	27/20 =
12/10 =	4/10 =	1/40 =	47/25 =

Directions: Convert each Percent to Fraction

42% =	86.4% =	53% =	172% =
66.3% =	189% =	105% =	13% =

Directions: Convert each Decimal to a Fraction

0.75 =	0.5 =	0.532 =	0.345 =
0.543 =	0.42 =	1.2 =	0.188 =

Week 5 | Adding, Subtracting, Multiplying, and Dividing Positive and Negative Numbers

Learning Target: I CAN add, subtract, multiply, and divide positive and negative numbers.

Directions: Calculate each sum or difference (use the number line if it will help you)
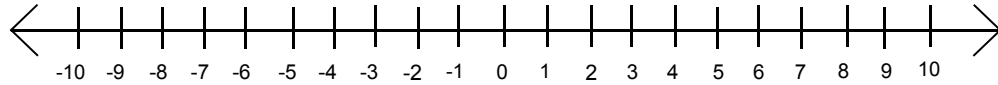
7 – 10 = _____   _____ = -2 + 6   _____ = -1 – 8

-10 + 7 = _____   -1 + (-5) = _____   _____ = 8 + (-6)

2 – (-6) = _____   _____ = -4 – (-12)   _____ = - 9 + 5 – 2

25 – 40 = _____   5 + (-3) – 10 = _____   _____ = 2 – (-5) – (-1)

-3 – 10 = _____   _____ = -5 + 9   _____ = -6 + (-5)

4 – (-11) = _____   _____ = 15 – 23   -17 + (-9) + (-2) = _____

-38 – 52 = _____   19.5 – 31.8 = _____   -45.2 + (-12.6) = _____

-25 + 81 = _____   -278 - 92 = _____   -78.3 + 64.1 = _____

-43 – (- 59) = _____   18.2 – (-36.06) = _____   -26 + 88 + (-35) = _____

Geneva borrowed $30 from Carl. Then, she paid $25 back to Carl. How much money does she still owe him?

The temperature at noon was 12 degrees. By midnight, the temperature had dropped 28 degrees. What was the temperature at midnight?

Directions: Calculate each product

$(-9) \times 3 =$	$(-8) \times 1 =$	$(-10) \times 2 =$	$(-6) \times 11 =$	$(-6) \times 5 =$
$(-1) \times 3 =$	$(-5) \times 1 =$	$(-8) \times 9 =$	$(-12) \times 3 =$	$(-5) \times 12 =$
$(-5) \times 2 =$	$(-1) \times 12 =$	$(-9) \times 11 =$	$(-7) \times 11 =$	$(-4) \times 9 =$
$(-11) \times 9 =$	$(-6) \times 7 =$	$(-8) \times 6 =$	$(-9) \times 6 =$	$(-9) \times 7 =$
$(-6) \times 8 =$	$(-7) \times 3 =$	$(-1) \times 7 =$	$(-6) \times 4 =$	$(-4) \times 5 =$
$(-7) \times 12 =$	$(-8) \times 0 =$	$(-12) \times 5 =$	$(-6) \times 3 =$	$(-2) \times 8 =$
$(-7) \times 2 =$	$(-3) \times 6 =$	$(-11) \times 10 =$	$(-9) \times 8 =$	$(-6) \times 6 =$
$(-6) \times 1 =$	$(-6) \times 12 =$	$(-11) \times 2 =$	$(-4) \times 12 =$	$(-11) \times 7 =$
$(-4) \times 4 =$	$(-3) \times 4 =$	$(-9) \times 12 =$	$(-2) \times 6 =$	$(-3) \times 9 =$
$(-10) \times 7 =$	$(-2) \times 2 =$	$(-5) \times 9 =$	$(-7) \times 7 =$	$(-3) \times 12 =$
$(-2) \times (-5) =$	$(-4) \times (-6) =$	$(-8) \times (-3) =$	$(-9) \times (-3) =$	$(-9) \times (-11) =$
$(-1) \times (-9) =$	$(-3) \times (-5) =$	$(-4) \times (-9) =$	$(-8) \times (-10) =$	$(-12) \times (-8) =$
$(-7) \times (-6) =$	$(-10) \times (-7) =$	$(-3) \times (-12) =$	$(-1) \times (-8) =$	$(-5) \times (-6) =$
$(-9) \times (-5) =$	$(-3) \times (-3) =$	$(-8) \times (-11) =$	$(-7) \times (-8) =$	$(-11) \times (-3) =$
$(-2) \times (-4) =$	$(-10) \times (-2) =$	$(-6) \times (-1) =$	$(-4) \times (-11) =$	$(-3) \times (-7) =$
$(-12) \times (-5) =$	$(-11) \times (-7) =$	$(-1) \times (-6) =$	$(-12) \times (-2) =$	$(-10) \times (-6) =$
$(-3) \times (-6) =$	$(-11) \times (-4) =$	$(-4) \times (-12) =$	$(-10) \times (-4) =$	$(-10) \times (-9) =$
$(-5) \times (-4) =$	$(-5) \times (-1) =$	$(-6) \times (-2) =$	$(-1) \times (-7) =$	$(-12) \times (-9) =$

Directions: Calculate each quotient

$(-30) \div (-10) =$	$(-8) \div (-1) =$	$(-64) \div (-8) =$	$(-56) \div (-8) =$	$(-1) \div (-1) =$
$(-35) \div (-7) =$	$(-21) \div (-7) =$	$(-9) \div (-1) =$	$(-49) \div (-7) =$	$(-50) \div (-5) =$
$(-22) \div (-11) =$	$(-10) \div (-5) =$	$(-121) \div (-11) =$	$(-132) \div (-12) =$	$(-70) \div (-7) =$
$(-63) \div (-9) =$	$(-28) \div (-7) =$	$(-40) \div (-4) =$	$(-99) \div (-9) =$	$(-144) \div (-12) =$
$(-88) \div (-11) =$	$(-48) \div (-12) =$	$(-99) \div (-11) =$	$(-11) \div (-11) =$	$(-72) \div (-9) =$
$(-24) \div (-8) =$	$(-80) \div (-10) =$	$(-3) \div (-3) =$	$(-120) \div (-12) =$	$(-4) \div (-1) =$
$(-12) \div (-1) =$	$(-6) \div (-1) =$	$(-9) \div (-9) =$	$(-77) \div (-7) =$	$(-8) \div (-8) =$
$(-27) \div (-9) =$	$(-20) \div (-5) =$	$(-60) \div (-12) =$	$(-22) \div (-2) =$	$(-6) \div (-3) =$
$(-2) \div (-2) =$	$(-10) \div (-1) =$	$(-20) \div (-10) =$	$(-45) \div (-5) =$	$(-6) \div (-6) =$
$4 \div (-2) =$	$144 \div (-12) =$	$81 \div (-9) =$	$12 \div (-2) =$	$30 \div (-10) =$
$70 \div (-10) =$	$10 \div (-2) =$	$72 \div (-9) =$	$55 \div (-5) =$	$66 \div (-11) =$
$15 \div (-5) =$	$20 \div (-4) =$	$8 \div (-2) =$	$24 \div (-2) =$	$120 \div (-10) =$
$96 \div (-12) =$	$40 \div (-5) =$	$90 \div (-10) =$	$2 \div (-2) =$	$88 \div (-8) =$
$40 \div (-4) =$	$6 \div (-2) =$	$45 \div (-5) =$	$7 \div (-7) =$	$20 \div (-2) =$
$60 \div (-12) =$	$12 \div (-12) =$	$24 \div (-3) =$	$10 \div (-5) =$	$40 \div (-8) =$
$12 \div (-3) =$	$84 \div (-7) =$	$33 \div (-11) =$	$28 \div (-7) =$	$7 \div (-1) =$
$18 \div (-6) =$	$50 \div (-5) =$	$25 \div (-5) =$	$14 \div (-7) =$	$132 \div (-11)$
$28 \div (-4) =$	$48 \div (-4) =$	$99 \div (-11) =$	$35 \div (-7) =$	$2 \div (-1) =$

Week 6 | Exponents and Roots Review

Learning Target: I CAN simplify expressions with exponents and roots.

Directions: Complete all of the empty spaces in the table below

	Exponential Form:	Expanded Form:	Simplified (Standard Form):
1	9^2		
2		3 x 3 x 3 x 3	
3	12^2		
4	-6 Cubed		
5		(-7)(-7)	
6			25
7		(4)(4)(4)	
8	20 Squared		
9	$-(2)^6$		
10	$(-1)^{13}$		
11	10^7		
12	18^0		

<u>Roots</u>

Addition is the Opposite of _____

Division is the Opposite of _____

Roots are the Opposite of _____

Name the *opposite* of each operation below:

Exponent of 4   Cube Root

5th Root   A number Squared

Complex Roots:

$\sqrt{25}$

In words: "_____"

Undoes a _____.

It means, _____

_____.

When no number is written in the groove, it is assumed to be _____.

$\sqrt[3]{8}$

In words: "_____"

Undoes a _____.

It means, _____

_____.

$\sqrt[4]{16}$

In words: "_____"

Undoes a _____.

It means, _____

_____.

Simplify each Radical Expression below. use the space provided to SHOW ALL of the STEPS in your WORK:

Roots are the Opposite of _____.

Directions - For each problem below…
I.   Write how you would say it in words.
II.   Then, solve the "Square Root."

$\sqrt{36}$ $\sqrt{100}$

$\sqrt{81}$ $\sqrt{(-4)}$

Directions - For each problem below…
I.   Write how you would say it in words.
II.   Then, solve the "Root."

$\sqrt[3]{27}$ $\sqrt[3]{(-27)}$

$\sqrt[3]{64}$ $\sqrt[4]{81}$

$\sqrt[4]{1,000}$ $\sqrt[4]{1}$

$-8 + \sqrt{25}$ $\sqrt{(4 + 8 \times 4)}$

$\sqrt{(8^2)}$ $4 \times \sqrt[3]{(5^2 \times 5)}$

Week 7 | Order of Operations Review and Inverse Operations Review
PEMDAS

Learning Target: I CAN use order of operations to simplify expressions with real numbers.

Directions: Use Order of Operations to simplify each expression below. use the space provided to SHOW ALL of the STEPS in your WORK.

-3 (-45 + 55)   5 – 3 x 7 $[-15 + 27]^2$ / -2

$[-15 + 27]^2$ / -2 $\dfrac{6 - 18}{(-3)}$ 18 / (-3) – 2 x (-3)

$(-1)(8 - 13)(-2 + 5)^2$ |18/3 – 5 x 3| $6^2 - 2(-17 + 28)$

(5.1 – 19.3) + 2(16.3 – 22.8) $\dfrac{11 + (21 - 3 \times 8)^3}{-2}$ 2 [-12 – (3 – 10)]

-4 (20 – 35) – 2 (7 – 18)   -3 (-45 + 55)   5 – 3 x 7

[-15 + 29] / -2 $\dfrac{-6 – 18}{(-3)}$ 18 / (-3) – 2 x (-3)

(-1)(8 – 13)(-2 + 9) |18/3 – 5 x 3| 31 – 2(-17 + 28)

2 [-12 – (3 – 10)] $\dfrac{-4 (20 – 35)}{-2 (-1 + 7)}$ $-48 + (\sqrt{100})^2$

$(-5)^2 - \sqrt{(200 / 8)}$ $-3 \times \sqrt[3]{(6^2 \times 6)}$ $\dfrac{\sqrt{(150 - 6)}}{-19 + 22}$

Learning Target: I CAN use inverse operations to solve equations for an unknown amount.

SADMERP

Directions: Use inverse operations to solve each equation below. SHOW ALL WORK, and PROVE your answer. USE SADMERP TO SOLVE THESE EQUATIONS.

$5x + 8 = 23$ $-15 = -5 (x - 8)$

Proof: **Proof:**

$3 = k/2 - 1$ $8 + x/4 = 13$

Proof: **Proof:**

$7 + 5m = 52$ $36 = -6 + 6p$

Proof: **Proof:**

$2(8 + x)^2 = 32$ $35 = 10 + x^2$

Proof: **Proof:**

$-6 + \sqrt{(g + 18)} = -1$

$2 = \dfrac{(k + 9)^3}{-4}$

Proof:

Proof:

$5x + 2x = 21$

$42 = 4x + 9 + x + 3$

Prove it:

Prove it:

$-8 + 3x - 2x - 2 = 2$

$5x^2 - 6 - 7x^2 + 3 = -21$

Prove it:

Prove it:

Week 8 | Steps for Problem Solving Review

Learning Target: I CAN use visual models and create equations to solve real-world problems.

Directions: Using the Steps for Problem Solving, solve each word problem below. Use a variable in each equation.

Diego is arranging science beakers in the lab. He put them into groups of 9, and after he had done that, he still had 7 left over. If there are 61 beakers total, how many groups was he able to make?

Underline the **QUESTION** & Write an **ANSWER SENTENCE**:

Answer Sentence: _____

_____

Find the **IMPORTANT INFO** (what you know and what you don't know) & record it below:

Create a **VISUAL MODEL** and an **EQUATION** for the problem, using an equal sign to show balance. Draw Model and Equation in the space below:

ESTIMATE a solution to the problem.

Use the visual models to help you **SOLVE** the problem (equation).

CHECK YOUR WORK, then record final answer in answer sentence.

James has 200 pencils. He gives some pencils to all 12 of his classmates. If he has 104 pencils left over that didn't get passed out, how many pencils did he give to each classmate?

Underline the **QUESTION** & Write an **ANSWER SENTENCE**:

Answer Sentence: _____

_____

Find the **IMPORTANT INFO** (<u>what you know and what you don't know</u>) & record it below:

Create a **VISUAL MODEL** and an **EQUATION** for the problem, using an equal sign to show balance. Draw Model and Equation in the space below:

ESTIMATE a solution to the problem.

Use the visual models to help you **SOLVE** the problem (equation).

CHECK YOUR WORK, then record final answer in answer sentence.

Learning Target: I CAN use common denominators to add and subtract fractions.

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

$$\frac{1}{3} + \frac{5}{10} =$$

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

$$\frac{2}{4} + \frac{8}{10} =$$

$$\frac{1}{4} + \frac{2}{10} =$$

$$\frac{1}{2} + \frac{1}{4} =$$

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

$$\frac{2}{10} + \frac{1}{2} =$$

$$\frac{2}{4} + \frac{1}{2} =$$

$$\frac{1}{2} + \frac{8}{10} =$$

$$\frac{3}{4} - \frac{1}{10} =$$

$$\frac{3}{5} - \frac{2}{4} =$$

$$\frac{2}{3} - \frac{1}{2} =$$

$$\frac{2}{4} - \frac{1}{5} =$$

$$\frac{1}{2} - \frac{1}{4} =$$

$$\frac{7}{10} - \frac{1}{3} =$$

$$\frac{5}{10} + \frac{9}{10}$$

$$\frac{7}{12} + \frac{7}{12}$$

$$\frac{6}{11} + \frac{9}{11}$$

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

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

Converting Improper Fractions to Mixed Numbers

1) $\dfrac{43}{6}$ = ____

2) $\dfrac{49}{10}$ = ____

3) $\dfrac{85}{11}$ = ____

4) $\dfrac{48}{7}$ = ____

5) $\dfrac{13}{4}$ = ____

6) $\dfrac{33}{9}$ = ____

7) $\dfrac{49}{12}$ = ____

8) $\dfrac{26}{6}$ = ____

9) $\dfrac{13}{5}$ = ____

10) $\dfrac{25}{12}$ = ____

11) $\dfrac{16}{6}$ = ____

12) $\dfrac{21}{4}$ = ____

Converting Mixed Numbers to Improper Fractions

1) $5\dfrac{3}{7}$ = ____

2) $3\dfrac{1}{8}$ = ____

3) $6\dfrac{1}{2}$ = ____

4) $7\dfrac{1}{4}$ = ____

5) $5\dfrac{2}{9}$ = ____

6) $3\dfrac{3}{8}$ = ____

7) $7\dfrac{4}{5}$ = ____

8) $8\dfrac{1}{2}$ = ____

9) $4\dfrac{2}{3}$ = ____

10) $4\dfrac{3}{10}$ = ____

11) $9\dfrac{4}{7}$ = ____

12) $7\dfrac{1}{2}$ = ____

Scratch Paper

Scratch Paper