

# Incoming 8th Grade Summer Math Packet

Students should use their notebook from math class to assist with completion, when needed. Use of multiplication chart is strongly encouraged and a calculator is not allowed.

Please make sure to show all work and keep work neat and organized. Students may use extra paper to show work. Please box, circle, or highlight the answer for each question.

All work must be completed in pencil.

**Packets are due on August 16, 2024.**

# Resource / Reference Materials

## 15 x 15 MULTIPLICATION CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
4	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
6	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90
7	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105
8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
9	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135
10	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
11	11	22	33	44	55	66	77	88	99	110	121	132	143	154	165
12	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
13	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195
14	14	28	42	56	70	84	98	112	126	140	154	168	182	196	210
15	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225

M + A + T + H = Love

### Order of Operations:

**P** : Parenthesis

**E** : Exponents

**MD** : Multiplication OR

Division (from left to right)

**AS** : Addition OR Subtraction  
(from left to right)

# Integers

1) $-94 + 85$	2) $-63 - 89$	3) $14 - 95$
4) $-187 - (-653)$	5) $12 \times 18$	6) $-44 \times 25$
7) $-44 \div 4$	8) $-183 \div -61$	9) $-891 \div -9$

# Add & Subtract Expressions (Combine like terms)

**Directions:** Simplify each expression.

1) $-(4x + 7) - 6x$	2) $-12(3x - 9) + 15$	3) $(1 + 10x) + (5 - 4x) - x$
4) $(2x - 10) - (2 - 4x)$	5) $(16 - 3x) + (2x + 9)$	6) $2(3x - 6) - (8x + 7)$

# Solving Equations

1) $-9x = 81$	2) $-90 = 18r$	3) $m - 1 = \frac{1}{2}$
4) $3 + \frac{x}{2} = 7$	5) $\frac{p+3}{18} = 1$	6) $-7 = \frac{r}{2} + 3$

# Decimals

## Adding

1)  $13.2 + 6.84$

2)  $16.32 + 19.404$

## Subtracting

3)  $15.2 - 6.26$

4)  $16.32 - 8.1$

## Multiplying

5)  $5.82 \times 1.6$

6)  $50.4 \times 0.22$

## Dividing

7)  $25.2 \div 5$

8)  $29.2 \div 4$

Decimal Operations:	
The Steps	
<b>Add</b>	<ul style="list-style-type: none"><li>• Line up the decimals.</li><li>• Fill in empty spaces with a zero.</li><li>• Add.</li><li>• Drop the decimal down into your answer.</li></ul>
<b>Subtract</b>	<ul style="list-style-type: none"><li>• Line up the decimals.</li><li>• Fill in empty spaces with a zero.</li><li>• Subtract.</li><li>• Drop the decimal down into your answer.</li></ul>
<b>Multiply</b>	<ul style="list-style-type: none"><li>• Multiply as you normally would.</li><li>• Count the number of decimal places in the factors.</li><li>• The product should have the same number of decimal places as the factors.</li></ul>
<b>Divide</b>	<ul style="list-style-type: none"><li>• Divide as you normally would.</li><li>• Float the decimal up into your answer.</li></ul>

# Fractions

Adding

$$1) \frac{1}{2} + 6\frac{2}{3}$$

$$2) \frac{5}{8} + 2$$

## Fraction Operations:

	The Steps
<b>Add</b>	<ul style="list-style-type: none"> <li>Re-write each fraction with the LCD.</li> <li>Add the numerators.</li> <li>Simplify.</li> </ul>
<b>Subtract</b>	<ul style="list-style-type: none"> <li>Re-write mixed numbers as improper fractions.</li> <li>Re-write each fraction with the LCD.</li> <li>Subtract the numerators.</li> <li>Simplify.</li> </ul>
<b>Multiply</b>	<ul style="list-style-type: none"> <li>Re-write mixed numbers as improper fractions.</li> <li>Multiply straight across.</li> <li>Simplify.</li> </ul>
<b>Divide</b>	<ul style="list-style-type: none"> <li>Re-write mixed numbers as improper fractions.</li> <li>Flip the second fraction.</li> <li>Change the division sign to multiplication.</li> <li>Multiply straight across.</li> <li>Simplify.</li> </ul>

Subtracting

$$3) 5\frac{3}{5} - 1\frac{1}{3}$$

$$4) 10\frac{4}{5} - 3\frac{1}{2}$$

Multiplying

$$5) 3\frac{1}{2} \cdot 4$$

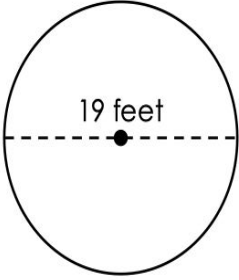
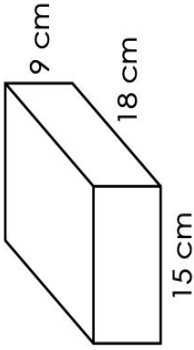
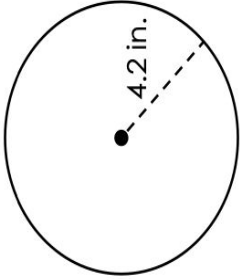
$$6) 6\frac{1}{8} \cdot 2\frac{1}{2}$$

Dividing

$$7) 9\frac{1}{3} \div 3$$

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

# Mixed Geometry Review

<p>1) Find the circumference.</p> 	<p>2) Find the surface area of the rectangular prism.</p> 
<p>4) Find the area.</p> 	<p>5) Find the volume of the triangular prism.</p> 