FONTBONNE
The Early College of Boston

SUMMER MATH REVIEW

FOR STUDENTS ENTERING GRADE 8

NAME: _____

Dear Fontbonne Academy Student,

The purpose of this Summer Math Assignments Packet is to help you maintain the math skills that you worked hard to learn so far. When you return to school in September you should be confident in your ability to learn new and challenging concepts.

INSTRUCTIONS:

1. **DO NOT USE A CALCULATOR**

2. Ideally, you should do one assignment per week during the summer. You must complete the whole packet and bring it to your first math class in September.

3. You should do all your work neatly on the assignment page. If you need scratch paper, do your work neatly and put the assignment number and problem number on the scratch paper. Keep your scratch paper and bring it to school in September with your packet.

Good luck,

Have a great summer and see you in September!

To be successful in math, it is **essential that you are fluent in your addition and multiplication facts**. This means you should be able to recall basic facts **quickly and accurately—without needing to count or use a calculator**.

Being fluent with your math facts will help you:

- Solve more complex problems with confidence,
- Work more efficiently during lessons and tests, and
- Build a strong foundation for higher-level math.

You are expected to practice your addition and multiplication facts regularly until you can recall them automatically. Consistent practice will make math easier, faster, and more enjoyable!

How You Can Practice Your Math Facts:

1. **Make and use flashcards** — practice a few minutes each day.
2. **Play online math games** like *XtraMath*, *Prodigy*, *Khan Academy*, or *Math Playground*.
3. **Set a timer** for 2–3 minutes and see how many facts you can answer correctly — then try to beat your score next time!
4. **Write fact families** (for example, 3 × 4 = 12, 4 × 3 = 12, 12 ÷ 4 = 3, 12 ÷ 3 = 4).
5. **Practice with a friend or family member** — quiz each other or make it a fun competition.
6. **Use math apps** that build speed and accuracy through repetition and games.
7. **Make it fun** — create chants, songs, or rhythms to remember tricky facts.

ADDITION CHART

+	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12	13
2	2	3	4	5	6	7	8	9	10	11	12	13	14
3	3	4	5	6	7	8	9	10	11	12	13	14	15
4	4	5	6	7	8	9	10	11	12	13	14	15	16
5	5	6	7	8	9	10	11	12	13	14	15	16	17
6	6	7	8	9	10	11	12	13	14	15	16	17	18
7	7	8	9	10	11	12	13	14	15	16	17	18	19
8	8	9	10	11	12	13	14	15	16	17	18	19	20
9	9	10	11	12	13	14	15	16	17	18	19	20	21
10	10	11	12	13	14	15	16	17	18	19	20	21	22
11	11	12	13	14	15	16	17	18	19	20	21	22	23
12	12	13	14	15	16	17	18	19	20	21	22	23	24

MULTIPLICATION CHART TO 12X12

X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Week 1: Adding and Subtracting Rational Numbers and Integers DO NOT USE A CALCULATOR

1) Which of the following numbers are *rational*? Circle all rational numbers. a) π b) $\frac{2}{3}$ c) 0.25 d) $\sqrt{2}$	**2)** Compare with <, >, or =. $\frac{3}{4}$ ____ $\frac{5}{6}$
3) Compare with <, >, or =. $\frac{1}{3}$ _____ 0.3	**4)** Which is greater: $-\frac{3}{4}$ or -0.7?
5) Order the numbers from least to greatest: $-2, \frac{1}{2}, -1.5, 0, \frac{3}{4}$	
Evaluate:	
6) $-3 + 7$	**7)** $12 - 18$
8) $-8 + (-5)$	**9)** $6 - (-4)$
10) $-15 - (-9)$	**11)** $\frac{3}{8} + \frac{1}{8}$
12) $\frac{5}{6} - \frac{1}{3}$	**13)** $-\frac{4}{9} + (-\frac{2}{3})$

14) $3.2 + (-1.5)$	**15)** $-4.7 - 2.8$
16) $5.5 - (-3.2)$	**17)** $-0.75 + 1.25$
18) $7.08 - 9.3$	**19)** $-2 + \frac{5}{2}$
20) $\frac{3}{4} - 1.5$	**21)** $\frac{-7}{3} + 4$
22) The temperature was $-4°F$ in the morning and rose by 7°. What is the new temperature?	
23) A submarine is at 250 feet below sea level. It rises 90 feet. What is its new position (in feet)?	
24) Jordan owes $25 and pays back $10. Represent his balance as an integer.	
25) A hiker is at an elevation of 120 feet. After descending 85.5feet, what is his new elevation?	

Week 2: Multiplying and Dividing Rational Numbers and Integers DO NOT USE A CALCULATOR

1) $6 \times (-4)$	**2)** $-9 \times (-3)$
3) $-8 \div 4$	**4)** $15 \div (-3)$
5) -12×2	**6)** $-48 \div (-6)$
7) 7×-1	**8)** $-6 \times (-2) \times (-3)$
9) $\frac{3}{4} \times 8$	**10)** $-\frac{2}{3} \times \frac{9}{4}$
11) $\frac{5}{6} \div \frac{2}{3}$	**12)** $-\frac{7}{8} \div \left(-\frac{1}{4}\right)$

13) $0.5 \times (-3.2)$	**14)** $-4.5 \div 1.5$
15) $\frac{-10}{3} \times \frac{6}{5}$	**16)** $2.4 \div (-0.6)$
17) $-\frac{3}{10} \times 20$	**18)** $\frac{7}{9} \div \left(-\frac{14}{27}\right)$
19) $-\frac{1}{2} \times \frac{1}{2} \times -\frac{1}{2}$	**20)** $-\frac{2}{5} \times \frac{5}{3} \div \frac{9}{6}$

Week 3: Understanding and Simplifying Algebraic Expressions DO NOT USE A CALCULATOR

1) Simplify: $3x + 5x$	**2)** Simplify: $7y - 2y + 4$
3) Combine like terms: $4a + 3b - 2a + b$	**4)** Simplify: $9m + 2 - 3m + 5$
5) Evaluate $2x + 3$ when $x = 4$	**6) Simplify** $(3x + 4) + (2x + 5)$
7) Simplify $(5y - 2) + (4y + 6)$	**8) Simplify** $(8a + 3) - (5a + 1)$
9) Simplify $(7m - 4) - (2m - 5)$	**10) Simplify** $(9x + 2y) + (3x - 5y)$
11) Simplify: $3(x + 5)$	**12)** Simplify: $2(4y - 3)$
13) Simplify: $-5(a + 2)$	**14)** Simplify: $6(2x - 7)$
15) Simplify: $-3(5m - 4n)$	**16)** Use the distributive property to expand: $4(3x + 2y - 5)$

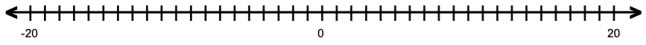
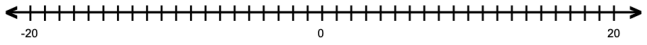
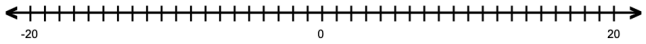
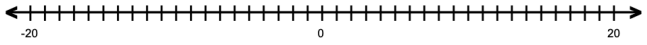
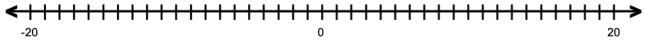
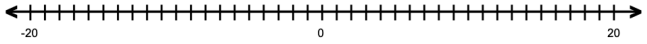
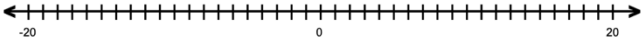
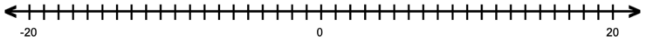
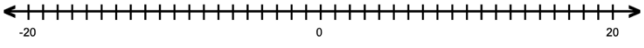
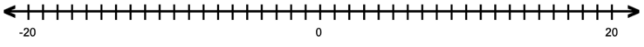
17) Expand: $-2(2x - 3y + 4)$	**18)** Simplify: $7(3a - 2) - 4a$
19) Simplify: $5(2x + 1) + 3(4x - 5)$	**20)** Simplify: $6(x - 4) - 2(3x - 5)$
21) Factor: $8x + 12$	**22)** Factor: $15y + 10$
23) Factor: $18a - 24$	**24)** Factor: $9x + 27y$
25) Factor: $25m - 15n$	**26)** Factor: $6x + 9y + 12$
27) Factor: $20p - 16$	**28)** Factor: $-12x - 18$

Week 4: Solving Equations DO NOT USE A CALCULATOR

Solve for the variable.	
1) $x + 7 = 12$	**2)** $y - 5 = 9$
3) $4x = 12$	**4)** $\frac{y}{4} = 6$
5) $x - 10 = 3$	**6)** $-5 + n = 0$
7) $8 = m - 3$	**8)** $-2x = 14$
9) $\frac{p}{5} - 2 = 0$	**10)** $t + (-7) = 1$
11) $2x + 5 = 13$	**12)** $3y - 4 = 11$

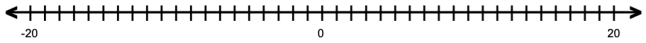
13) $5a + 7 = 22$	**14)** $6b - 9 = 15$
15) $\frac{x}{2} + 3 = 7$	**16)** $4y - 5 = 11$
17) $3x + 8 = -1$	**18)** $\frac{p}{3} - 2 = 4$
19) $2m - 7 = -3$	**20)** $5n + 2 = 17$

Week 5: Writing ang Graphing Inequalities

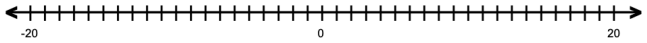
1) Write an inequality for and graph: "A number x is greater than 8." 	**2)** Write an inequality for and graph: "A number y is at most 12." 
3) Write an inequality for and graph: "A number n is less than -3." 	**4)** Write an inequality for and graph: "A number m is at least 5." 
5) Write an inequality for and graph: "A number t is between 2 and 9, inclusive." 	**6)** Graph: $x > 4$ 
7) Graph: $y \leq 3$ 	**8)** Graph: $n < -2$ 
9) Graph: $m \geq -5$ 	**10)** Graph: $-1 \leq t \leq 6$ 

Week 6: Solving Inequalities and Graphing Solutions DO NOT USE A CALCULATOR

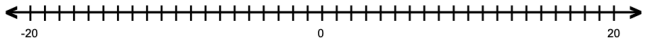
1) Solve $x + 7 < 12$



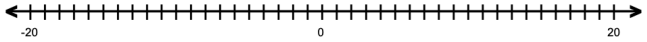
2) Solve $y - 3 \geq 5$



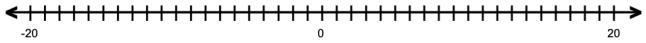
3) Solve $-4x \leq 16$



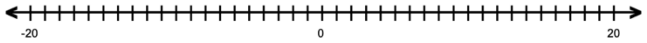
4) Solve $\frac{p}{2} > 3$



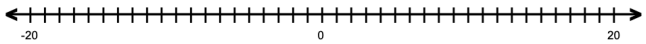
5) Solve $-2 + n \geq 0$



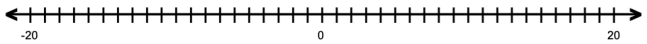
6) Solve $3x + 5 < 14$



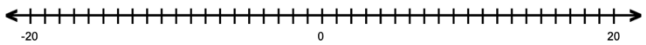
7) Solve $2y - 7 \geq 9$



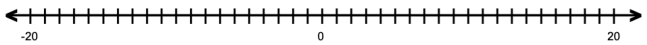
8) Solve $4a + 3 \leq 11$



9) Solve $\frac{m}{2} - 1 > 4$



10) Solve $-5n - 2 \leq 8$



Week 7: Converting and Calculating Fractions, Decimals, and Percents

DO NOT USE A CALCULATOR

1) Convert $\frac{3}{4}$ to a decimal.	**2)** Convert 0.6 to a fraction in simplest form.
3) Convert 25% to a decimal.	**4)** Convert 0.125 to a percent.
5) Convert $\frac{7}{10}$ to a percent.	**6)** Convert 45% to a fraction in simplest form.
7) Convert 150% to a decimal.	**8)** Convert 0.375 to a fraction in simplest form.