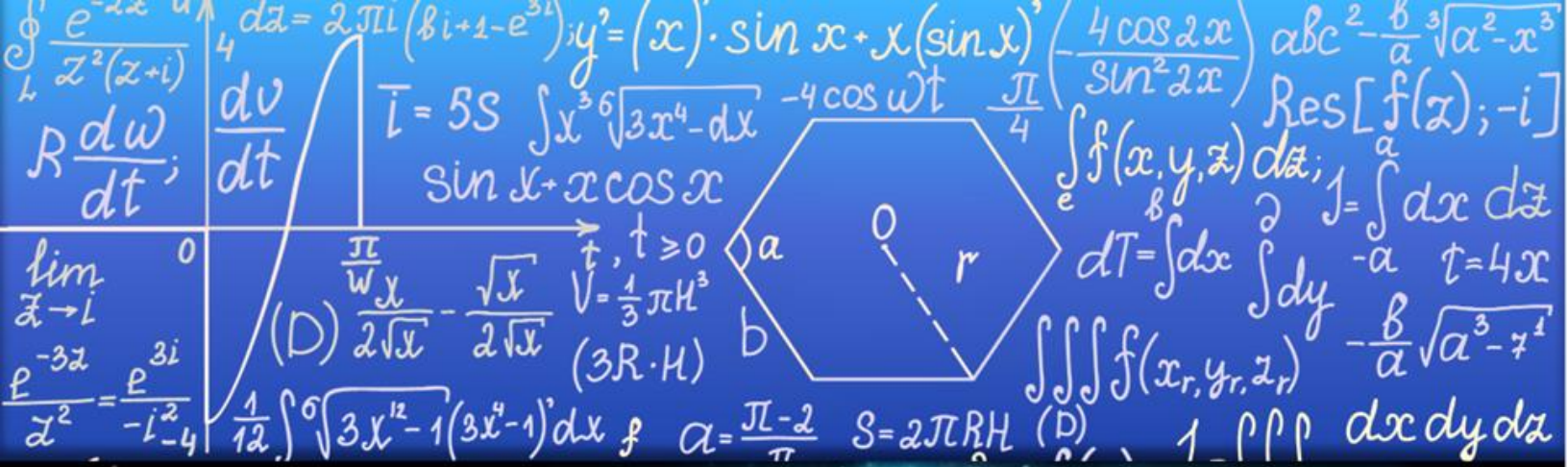
A STEM SCHOOL

FROEBEL BILINGUAL SCHOOL

HOME OF THE SPACE GENERATION



MATH SKILLS SHARPENERS

MATH SUMMER WORKBOOK

8

A STEM School

FROEBEL BILINGUAL SCHOOL

Home of the Space Generation

2024 SUMMER MATH SKILLS SHARPENER Going to Eighth Grade

STUDENT'S NAME	DATE
TEACHER COMING FROM	SCORE
TEACHER GOING TO	
PARENT'S SIGNATURE	DATE RECEIVED

SKILLS SHARPENER FOR STUDENTS GOING TO EIGHTH GRADE MATH

WEEK 1.

Day 1.1 - Write the fraction as a decimal and the decimal as a fraction.

1) $\frac{8}{25}$

2) $\frac{-5}{18}$

3) $1\frac{9}{20}$

4) $1\frac{6}{11}$

5) 0.25

6) $0.\overline{5}$

7) -0.3

8) 0.4

Day 1.2 – Solve the expression.

1) $\frac{3}{8}+\frac{2}{8}$

2) $\frac{-1}{6}+\frac{5}{6}$

3) $\frac{2}{15}-\frac{7}{15}$

4) $\frac{1}{12}-\left(\frac{-7}{12}\right)$

5) $1\frac{1}{2}+1\frac{1}{2}$

6) $-3\frac{2}{7}-6\frac{3}{7}$

7) $\frac{2}{3}\cdot\frac{7}{8}$

8) $\frac{-5}{12}\cdot\frac{3}{10}$

9) $4\frac{1}{8}\cdot1\frac{2}{3}$

10) $\frac{7}{12}\div\frac{2}{3}$

11) $\frac{7}{8}\div\frac{3}{10}$

12) $\frac{-4}{21}\div\frac{-12}{28}$

Day 1.3 - Complete the statement using <, > or =.

1) 2 _____ |-5|

2) |-1| _____ |-5|

3) 5 _____ |-5|

4) |-2| _____ 0

5) 0.4 _____ $\left|-\frac{7}{8}\right|$

6) |4.9| _____ |-5.3|

Day 1.4 - Find the product of each expression below using the rules for multiplying integers.

1) $-55 \times (-4) =$

2) $-20 \times (-3) =$

3) $17 \times (-14) =$

4) $-10 \times 65 =$

5) $-12 \times 20 =$

6) $-2 \times 17 \times (-5) =$

WEEK 2.

Day 2.1 - Find the quotient of each expression below using the rules for dividing integers.

1) $-125 \div (-25) =$

2) $-120 \div (-12) =$

3) $165 \div (-3) =$

4) $-72 \div 8 =$

5) $\frac{-200}{10} =$

6) $\frac{96}{-6} =$

Day 2.2 - Find the value of each numerical expression. Follow the order of operations when finding each value.

1) $(-81) \div (-27) \times (-4) =$

2) $196 \div (-14) \times (-13) =$

3) $25 \div 5 - 4 =$

4) $216 \div 6 + 4 \times 2 =$

Day 2.3 - Write an algebraic expression for each verbal phrase

1) x increased by 8

2) the product of x and 10

3) the quotient of 24 and 6

4) z decreased by 23

5) The sum of n and 12, divided by 5

6) 6 more than 6 times a number

Day 2.4 - Evaluate each expression using the values given.

1) $2x + 3y$ $when\ \ x = 8\ \ and\ \ y = 4$

2) $a - 4b$ $when\ \ a = 17\ \ and\ \ b = 3$

3) $12x - (y + 10)$ $when\ \ x = 10\ \ and\ \ y = 16$

4) $\frac{121}{x} - \frac{16}{y}$ $when\ \ x = 11\ \ and\ \ y = 8$

WEEK 3.

Day 3.1 - Find the terms, constant/s and coefficient/s for each expression.

1) $6x + 4y + 123 =$

Terms:
Variables:
Constant:
Coefficients:

2) $k + 7l + 2 =$

Terms:
Variables:
Constant:
Coefficients:

3) $12 + z =$

Terms:
Variable:
Constant:
Coefficient:

4) $x + y =$

Terms:
Variables:
Constant:
Coefficients:

5) $12a + b + 13 =$

Terms:
Variables:
Constant:
Coefficients:

6) $g + 15j + 13z =$

Terms:
Variable:
Constant:
Coefficients:

Day 3.2 - Find the product of each rational expression below using the rules for multiplying integers.

1) $-\frac{1}{3} \times \left(-2\frac{3}{4}\right)$

2) $-\frac{2}{3} \times 1\frac{1}{3}$

3) $-2.8 \times (-1.7)$

4) -2.5×3.6

Day 3.3 - Solve the equation by adding.

1) $c - 7.6 = -4$

2) $b - 14 = -3$

3) $-3 = z - 8$

4) $a - 5 = 8$

5) $23 = y - 11$

6) $n - 4 = -11$

7) $26 = p - 61$

8) $t - 3.7 = 1.2$

Day 3.4- Solve the equation by subtracting.

1) $x + 7 = 12$

2) $-14 = k + 6$

3) $y + 9 = 0$

4) $6 + x = 4$

5) $-13 + t = 10$

6) $u + 9 = -5$

7) $b + 4 = 10$

WEEK 4.

Day 4.1- Solve the equation by multiplying.

1) $\frac{y}{2} = 13$

2) $\frac{y}{-3} = 8$

3) $\frac{x}{7} = 5$

4) $-8 = \frac{b}{8}$

5) $-7 = \frac{q}{11}$

6) $16 = \frac{p}{6}$

7) $\frac{3}{4}g = -12$

8) $8 = -\frac{2}{5}c$

Day 4.2- Solve the equation by dividing.

1) $2x = 18$

2) $-0.2x = 1.6$

3) $-60 = -5a$

4) $8t = -32$

5) $3x = 27$

6) $-5t = -45$

7) $4y = 52$

8) $5m = -10$

Day 4.3 - Solve two-step equations.

1) $7x + 12 = 26$

2) $2y + 9 = -5$

3) $11k + 9 = 42$

4) $-10 = 6b - 16$

5) $250 = 124 - 3e$

6) $1 = 2r + 9$

Day 4.4- Solve equations with like terms and parentheses.

1) $-25 + 4(2r + 5) = -61$

2) $2x - x + 1 = 5$

3) $17h - 47 + 6h = 160$

4) $2p + 8 + 4p = 128$

5) $2 - 5(h + 3) = -28$

6) $4(5 - p) = 8$

WEEK 5.

Day 5.1- Solve inequalities by adding or subtracting and graph.

1) $p + 6 < 12$

2) $z - 2 \geq -11$

3) $w + 3 \geq 4$

4) $a - 3 > 2$

5) $-5 + x \leq -20$

6) $-12 + q > 39$

Day 5.2- Solve inequalities by multiplying or dividing and graph.

1) $3b > 27$

2) $\frac{k}{3} > 6$

3) $5f > -40$

4) $\frac{b}{-2} \geq 8$

5) $9s > -18$

6) $\frac{w}{4} > 2$

Day 5.3 - Solve each multi-step inequalities and graph.

1) $160 + 4f < 500$

2) $m < 3m + 8$

3) $7 + 2t < 21$

4) $8x > 7x + 6$

5) $12 > 3x - 6$

6) $5t + 1 < -2t + 15$

Day 5.4- Solve each compound inequalities and graph.

1) $4 \leq x + 2 \leq 8$

2) $n + 2 < 3\ OR\ n + 3 > 7$

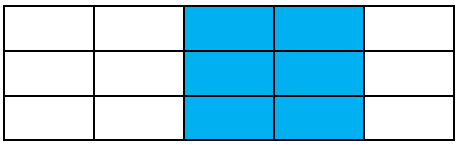
3) $-3 < x + 2 < 7$

4) $x - 1 < -1\ OR\ x - 5 > -1$

5) $2 < x + 2 < 5$

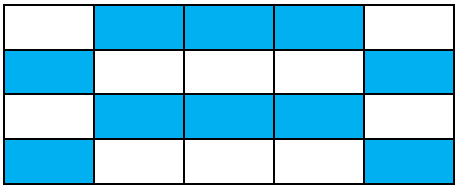
WEEK 6.

Day 6.1- Find the ratio of the following.



1) the number of shaded squares to the number of un-shaded squares _____
2) the number of shaded squares to the total number of squares _____
3) the total number of squares to the number of un-shaded squares _____

Day 6.2- Find the ratio of the following.



1) the number of shaded squares to the number of un-shaded squares _____
2) the number of shaded squares to the total number of squares _____
3) the total number of squares to the number of un-shaded squares _____

Day 6.3 - Solve for X.

1) $\frac{2}{3} = \frac{20}{x}$

2) $\frac{x}{3} = \frac{30}{15}$

3) $\frac{5}{x} = \frac{20}{30}$

4) $\frac{2}{3} = \frac{24}{x}$

4) $\frac{2}{x} = \frac{3}{12}$

5) $\frac{4}{9} = \frac{x}{18}$

Day 6.4 - Complete the table below.

Fraction	Decimal	Percent	Ratio
$\frac{3}{5}$			
			7:10
	0.5	50%	
$\frac{1}{10}$			
		80%	
			4:10

WEEK 7.

Day 7.1 - Find the percentage. Round off your answer to the nearest tenth of each percent if necessary.

1) What percent of 5 is 3?

2) What percent of 15 is 12?

3) 24 is what percent of 20?

4) What number is 0.5% of 200?

Day 7.2 - Find the percentage. Round off your answer to the nearest tenth of each percent if necessary.

1) What number is 15% of 105?

2) What is 6% of 2150?

3) What is 35% of 3000?

4) What is 3% of 1600?

5) 50 are what percent of 70?

6) 18 are what percent of 20?

.7) 40 are 20% of what number?

8) 16 are 30% of what number?

Day 7.3- Identify the percentage of change as an increase or decrease. Then find the percentage of change. Round to the nearest tenth of a percent.

1) 12 inches to 36 inches

2) 75 people to 25 people

3) 50 pounds to 35 pounds

4) 24 songs to 78 songs

5) 10 gallons to 24 gallons

6) 75 paper clips to 63 paper clips

Day 7.4 - Classify the triangle by its sides.

1) Find a sale price. The original video game is $35.00. It's 25% off. What is the sale price?

2) Find the original price. The cleats are $33.00 after the 40% discount. What is the original price?

3) A store pays $70.00 for a bicycle. What is the selling price when the markup is 20%?

WEEK 8.

Day 8.1- Simple Interest:

Find a balance.

1) You deposit $500 in a saving account. The account earns 3% simple interest per year. What is the balance after 3 years? What is the balance of the account after 9 months?

Find an annual Interest rate.

2) You deposit $1,000 in an account. The account earns $100 simple interest in 4 years. What is the annual interest rate?

Day 8.2- Find the interest earn.

1) $600 at 5% for 2 years.
2) $1,500 at 4% for 5 years.

3) $350 at 3% for 10 years.
4) $1,800 at 6.5% for 30 months

Day 8.3 – Find an annual interest rate. If:

$$I=Amount\ of\ Interest$$
$$P=Principal\ Amount$$
$$R=Annual\ rate\ of\ Interest$$
$$T=Time\ in\ Years$$

1) I = $24, P = $400, t = 2 years
2) I = $562.50, P = $1,500, t = 5 years

3) I = $54, P = $900, t = 18 months
4) I = $160, P = $2,000, t = 8 months

Day 8.4- Find an amount of time. If:

$$I=Amount\ of\ Interest$$
$$P=Principal\ Amount$$
$$R=Annual\ rate\ of\ Interest$$
$$T=Time\ in\ Years$$

1) I = $30, P = $500, r = 3%
2) I = $720, P = 1,000, r = 9%

3) I = $54, P = $800, r = 4.5%
4) I = $450, P = $2,400, r = 7.5%

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