

A STEM School

FROEBEL

BILINGUAL SCHOOL

Home of the Space Generation

MATH

SKILLS SHARPENERS

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

2026 SUMMER MATH WORKBOOK

SKILLS SHARPENER FOR STUDENTS GOING TO EIGHTH GRADE MATH

WEEK 1.

Day 1.1 - Find the prime factorization of the following. Use a factor tree.

1) 54

2) 120

3) 300

4) 60

5) 136

6) 280

Day 1.2 - Find the greatest common factor of each pair of numbers through prime factorization.

1) 12 and 18

2) 36 and 244

3) 105 and 165

4) 30 and 255

Day 1.3 - Write the fraction as a decimal.

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

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

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

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

Day 1.4 - Write the decimal as a fraction.

1) 0.25

2) $0.\bar{5}$

3) 0.3

4) 0.4

Week 2.

Day 2.1 - Solve the expression.

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

2) $\frac{2}{15} + \frac{7}{15}$

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

4) $-3\frac{2}{7} - 6\frac{3}{7}$

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

6) $4\frac{1}{8} \cdot 1\frac{2}{3}$

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

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

Day 2.2 – Solve the following powers.

1) 2^2

2) 2^3

3) 7^5

4) $(-8)^3$

Day 2.3 – Express the following numbers in exponential form. Use the smallest base possible.

1) 25

2) 81

3) 64

4) -27

Day 2.4 - Perform the following operations.

1) $3 + 12 \div 4 + 9 \times 2$

2) $4 - (6 - 4)^2 + 14 \div 2$

Week 3.

Day 3.1 - 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 3.2 - Arrange the following numbers from smaller to greater.

1) $-7, -8, -15, -9, -13$

2) $-20, 0, -18, -35, 2$

3) $140, -350, 12, -130, -139$

4) $-75, -69, -77, -68, -70$

Day 3.3 - Add the following integers.

1) $-15 + 12$

2) $-75 + (-15)$

3) $-90 + 12$

4) $-100 + (-200)$

Day 3.4 - Subtract the following integers.

1) $-18 - 15$

2) $-18 - (-15)$

3) $18 - (-15)$

4) $18 - 15$

Week 4.

Day 4.1 - 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) $-2 \times 17 \times (-5) =$

Day 4.2 - 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 4.3 - 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 4.4 - 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

Week 5.

Day 5.1 - 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 $y = 8$

Day 5.2 - 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 5.3 - 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 5.4 - 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) $n - 4 = -11$

$$7) 26 = p - 61$$

$$8) t - 3.7 = 1.2$$

Week 6.

Day 6.1 - Solve the equation by subtracting.

$$1) x + 7 = 12$$

$$2) -14 = k + 6$$

$$3) y + 9 = 0$$

$$4) 6 + x = 4$$

$$5) -13 + t = 10$$

$$6) u + 9 = -5$$

$$7) b + 4 = 10$$

Day 6.2 - Solve the equation by multiplying.

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

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

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

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

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

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

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

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

Day 6.3 - 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 6.4 - 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) $1 = 2r + 9$

Week 7.

Day 7.1- 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) $4(5 - p) = 8$

Day 7.2- 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 7.3- 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 7.4 - 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) $5t + 1 < -2t + 15$

WEEK 8.

Day 8.1 - 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 8.2 - 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 8.3- 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 8.4- Find the interest earned.

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

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