

Timothy Christian School

Entering Algebra 1 Summer Work

Name: _____

Adding/Subtracting Fractions and Mixed Numbers (10)

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

6. $\frac{9}{5} + \left(-\frac{4}{3}\right)$

2. $2 \cdot \left(-\frac{4}{5}\right) - \frac{7}{8}$

7. $\left(-3\frac{3}{5}\right) - 4\frac{2}{5}$

3. $\frac{7}{6} - \frac{5}{6}$

8. $\left(-1\frac{7}{8}\right) + \left(-3\frac{1}{2}\right)$

4. $\frac{1}{3} - \left(-\frac{5}{3}\right)$

9. $\left(-2\frac{7}{8}\right) + \left(-1\frac{1}{2}\right)$

5. $\left(-\frac{1}{3}\right) + \frac{3}{8}$

10. $1\frac{2}{5} - \left(-3\frac{3}{4}\right)$

Multiplying/Dividing Fractions and Mixed Numbers (20)

Find each product.

1. $-\frac{5}{4} \times \frac{1}{3}$

6. $-2\frac{2}{3} \times 4\frac{1}{10}$

2. $\frac{8}{7} \times \frac{7}{10}$

7. $-2\frac{1}{5} \times -1\frac{3}{4}$

3. $\frac{4}{9} \times \frac{7}{4}$

8. $-1\frac{1}{4} \times 9$

4. $-\frac{2}{3} \times \frac{5}{4}$

9. $-1\frac{5}{7} \times -2\frac{1}{2}$

5. $-2 \times \frac{3}{7}$

10. $-2\frac{3}{8} \times 2\frac{1}{2}$

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Find each quotient.

11. $-\frac{1}{5} \div \frac{7}{4}$

16. $-3\frac{5}{9} \div 3$

12. $-\frac{1}{2} \div \frac{5}{4}$

17. $-2 \div -3\frac{4}{5}$

13. $-\frac{3}{2} \div -\frac{10}{7}$

18. $\frac{1}{9} \div -1\frac{1}{3}$

14. $\frac{1}{2} \div \frac{8}{7}$

19. $1\frac{6}{7} \div 5\frac{3}{7}$

15. $-\frac{9}{5} \div 2$

20. $-3\frac{7}{10} \div 2\frac{1}{4}$

Adding and Subtracting Positive and Negative Numbers (10)

1. $6 + (-7) + (-5) - (-2)$

6. $(-0.8) + (-7.2) - 5.4$

2. $(-11) - 8 + 1 - (-6)$

7. $(-\frac{3}{2}) + \frac{5}{8}$

3. $6 - 3.98$

8. $\frac{7}{4} - (-\frac{1}{2})$

4. $5.8 + (2.5)$

9. $(-\frac{1}{5}) + \frac{7}{4}$

5. $1.8 - (-3.7)$

10. $\frac{2}{5} - \frac{4}{5}$

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Multiplying and Dividing Positives and Negatives (10)

1. $-65 \div 13$

6. 9×-7

2. $-85 \div -17$

7. 12×-12

3. $128 \div -16$

8. $6 \times -5 \times 3$

4. $-180 \div 15$

9. $8 \times -6 \times -3$

5. $234 \div -13$

10. $(3)(3)(-1)(3)$

Adding/Subtracting Decimals (10)

Find each sum.

1. $10.8 + (-4.73)$

6. $(-10.9) + 6.1$

2. $(-4.79) + (-0.4)$

7. $2.2 - 7.3$

3. $(-3.6) + 0.43$

8. $(-8.1) - (-8.9)$

4. $(-7.1) + 3.63$

9. $2.9 - 9.4$

5. $13.7 + 3.2$

10. $(-3.9) - 8.9$

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Multiplying Decimals (10)

Find each product.

1. -5.5×-4.87

6. -1.5×-7.1

2. 1.7×-2.1

7. 7.8×5.1

3. 0.2×-1.6

8. $-7.5 \times 9 \times -8.3$

4. 1.7×-3.1

9. $-4.04 \times -9 \times 3$

5. -4.6×-7.2

10. $8.1 \times 8.6 \times -5$

Dividing Decimals (10)

Find the quotient.

1. $6.23 \div 2$

6. $46.483 \div 0.2$

2. $6 \div 1.25$

7. $315.2 \div 0.2$

3. $4.57 \div 3$

8. $56.24 \div 0.02$

4. $80 \div 1.5$

9. $425.4 \div 0.5$

5. $6.45 \div 5$

10. $100.4 \div 0.25$

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Order of Operations (14)

Evaluate each expression.

1. $3(6 + 7)$

8. $48 \div (4 + 4)$

2. $5 \times 3 \times 2$

9. $20 \div (4 - (10 - 8))$

3. $72 \div 9 + 7$

10. $40 \div 4 - (5 - 3)$

4. $2 + 7 \times 5$

11. $9 + 9 + 6 - 5$

5. $9 + 8 - 7$

12. $(5 + 16) \div 7 - 2$

6. $9 - 32 \div 4$

13. $7 + 10 \times 5 + 10$

7. $5(10 - 1)$

14. $(6 + 25 - 7) \div 6$

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Evaluating Expressions (14)

Evaluate each using the values given.

1. $y \div 2 + x$; use $x = 1$, and $y = 2$

8. $x + y + y$; use $x = 9$, and $y = 10$

2. $a - 5 - b$; use $a = 10$, and $b = 4$

9. $p^3 + 10 + m$; use $m = 9$, and $p = 3$

3. $p^2 + m$; use $m = 1$, and $p = 5$

10. $6q + m - m$; use $m = 8$, and $q = 3$

4. $y + 9 - x$; use $x = 1$, and $y = 3$

11. $p^2m \div 4$; use $m = 4$, and $p = 7$

5. $m + p \div 5$; use $m = 1$, and $p = 5$

12. $y - (z + z^2)$; use $y = 10$, and $z = 2$

6. $y^2 - x$; use $x = 7$, and $y = 7$

13. $z - (y \div 3 - 1)$; use $y = 3$, and $z = 7$

7. $z(x + y)$; use $x = 6$, $y = 8$, and $z = 6$

14. $(y + x) \div 2 + x$; use $x = 1$ and $y = 1$

Least Common Multiple (LCM) (8)

Find the least common multiple of the three numbers.

1. 8, 19, 23

5. 21, 11, 15

2. 19, 14, 8

6. 3, 10, 14

3. 18, 29, 21

7. 9, 27, 2

4. 17, 30, 11

8. 14, 17, 12

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Greatest Common Factor (GCF) (8)

Find the greatest common factor of the three numbers shown.

1. 77, 33, 22

5. 7, 28, 98

2. 65, 39, 13

6. 48, 87, 6

3. 48, 64, 32

7. 64, 48, 16

4. 99, 11, 88

8. 22, 77, 66

Combining Like Terms (8)

1. $n - 4 - 9$

5. $-2n - (9 - 10n)$

2. $-3x - 9 + 15x$

6. $9a + 10(6a - 1)$

3. $-16n - 14n$

7. $-10(1 - 9x) + 6(x - 10)$

4. $-4 + 7(1 - 3m)$

8. $-3(10b + 10) + 5(b + 2)$

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One-Step Equations (20) Solve each equation.

1. $26 = 8 + v$

11. $10n = 40$

2. $3 + p = 8$

12. $\frac{v}{8} = 2$

3. $15 + b = 23$

13. $16 = \frac{k}{11}$

4. $-15 + n = -9$

14. $-15x = 0$

5. $m + 4 = -12$

15. $21 = -7n$

6. $x - 7 = 13$

16. $\frac{m}{4} = -13$

7. $m - 9 = -13$

17. $-143 = -11x$

8. $p - 6 = -5$

18. $-5 = \frac{a}{18}$

9. $v - 15 = -27$

19. $n - 8 = -10$

10. $14b = -56$

20. $\frac{v}{7} = 8$

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Two-Step Equations

Solve each equation.

1) $9x - 7 = -7$

6) $8 + \frac{b}{-4} = 5$

2) $-6 + \frac{x}{4} = -5$

7) $10 - 6v = -104$

3) $2(n + 5) = -2$

8) $\frac{m}{9} - 1 = -2$

4) $-9x + 1 = -80$

9) $7(9 + k) = 84$

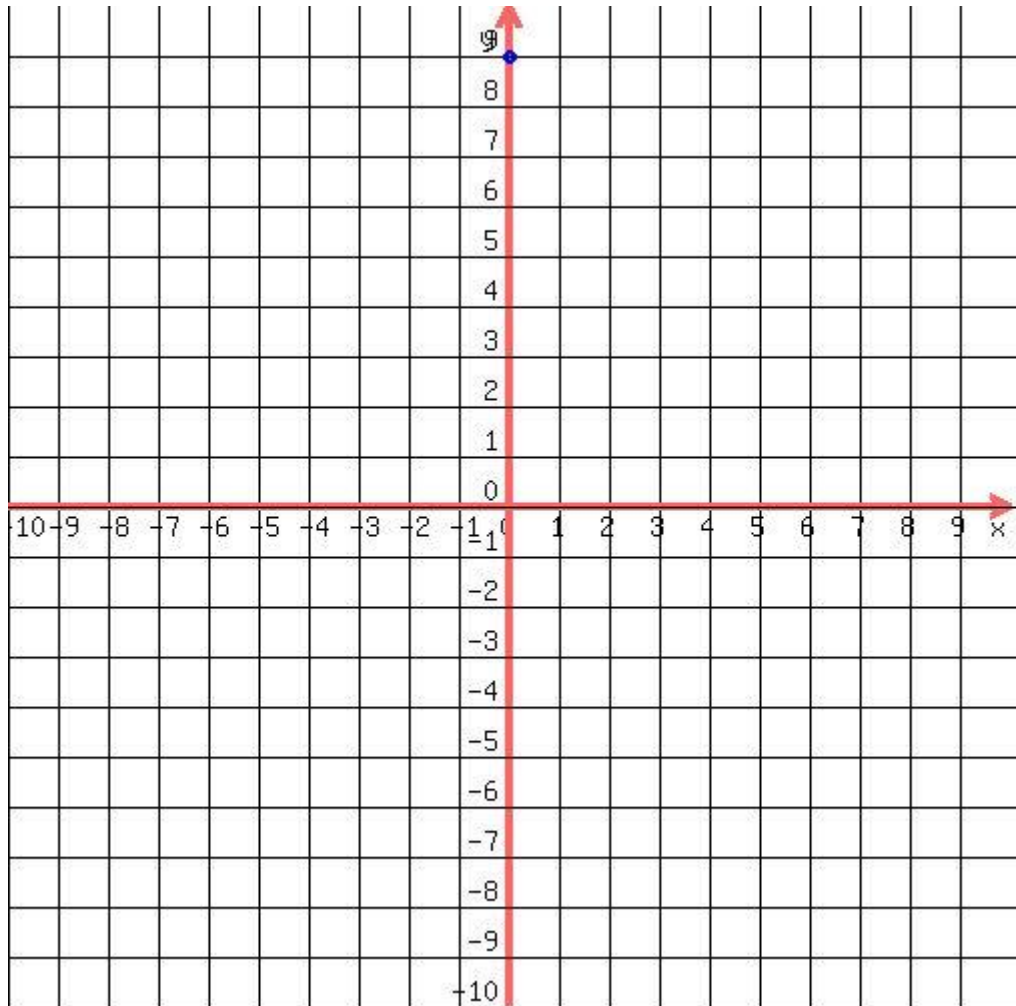
5) $9 + 9n = 9$

10) $-243 = -9(10 + x)$

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Four Quadrant Graphic Puzzle



Connect each sequence of points with a line. Work in pencil first!

$(8,7), (7,3), (5,1), (1,-3), (-1,-5), (-2.5,-4.5), (-3.5,-3.5), (-4,-2), (-2,0), (2,4), (4,6), (8,7)$ End of Sequence

$(-3.5,-3.5), (-4,-4), (-5,-4), (-5,-5), (-4,-6), (-3,-6), (-3,-5), (-2.5,-4.5)$ End of Sequence

$(-5,-4), (-8,-6), (-6,-6), (-8,-9), (-5,-7), (-5,-9), (-3,-6)$ End of Sequence

$(4,6), (5,4), (7,3)$ End of Sequence

$(2,4), (3,2), (5,1)$ End of Sequence

$(0,2), (1,0), (3,-1)$ End of Sequence

$(-2,0), (-1,-2), (1,-3)$ End of Sequence

What is the shape? _____

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Exponents Evaluate

1) $7 * 7 * 7 * 7$

2) $(-5)^3$

3) 12^2

4) 2^5

5) 5^4

6) $(-3)^4$

7) 6^3

8) $(-7)^2$

9) $5 * 5 * 5 * b * b * b * b$

10) 10^{-2}

11) 10^5

12) $(-6)^{-2}$

13) $(-9)^{-3}$

14) 2^{-5}

15) 6^{-3}

16) $(-4)^3$

17) $10 - (3 + 2)^0 + 2^{-1}$

18) $15 + (-6)^0 - 3^{-2}$

19) $2^{-2} + (-4)^{-1}$

20) $9^0 + 64(3 + 5)^{-2}$

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Properties of Exponents

Multiply. Write the product as one power.

1) $12^6 * 12^8$

2) $(-a)^6 * (-a)^7$

3) $15^9 * 15^{14}$

Divide. Write the quotient as one power.

1) $\frac{x^{10}}{x^5}$

2) $\frac{14^{15}}{14^3}$

3) $\frac{23^{17}}{23^9}$

Simplify.

1) $(6^2)^4$

2) $(3^5)^{-1}$

3) $(y^5)^2$

4) $(5^{-2})^0$

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Scientific Notation

Write each number in standard notation.

1) 1.14×10^3

2) 3.8×10^{-1}

3) 9.1×10^5

4) 6.08×10^{-4}

5) 3.331×10^6

6) 5.88×10^{-4}

Write each number in scientific notation.

7) 75,000,000

8) 208

9) 907,100

10) 0.093

11) 0.0505

12) 0.003007