NAME: _____**HOUR** _____

<u>Part 1: Adding Rational Numbers</u> – Find each sum. Show all work and write all answers in simplest form.

RESOURCE LINKS:

Adding and subtracting rational numbers:
https://tinyurl.com/and-rationalnumbers

Adding and subtracting positive/negative fractions:
https://tinyurl.com/add-subpositive-negative

1. 9 + (-3) =	**2.** -12 + -5 =	**3.** -11 + 6 =
4. -12 + 7 + (-3) =	**5.** $-\frac{4}{5}+\frac{3}{20}=$	**6.** $-8+\ -\frac{6}{7}=$
7. $-\frac{7}{2}+3\frac{2}{3}=$	**8.** 7.23 + (-8.36) =	**9.** -8.5 + (-9.38) =

Part 2: Subtracting Rational Number – Find each difference. **Show all work** and write all answers in **simplest form**. NO CALCULATOR!

10. 4 – (-6) =	**11.** -10 – 4 =	**12.** 6 – (-6) – 9 =
13. $-\frac{1}{6}-\frac{5}{12}=$	**14.** $\frac{9}{10}-3=$	**15.** $5\frac{3}{4}-\ -4\frac{5}{6}=$
16. $-\frac{1}{3}-\ -\frac{9}{4}=$	**17.** -12.41 – (-9.95) =	**18.** 2 – 8.25 =

Part 3: Multiplying & Dividing Rational Number – Find each product or quotient. Show all work and write all answers in simplest form.

RESOURCE LINKS:

Multiplying positive/negative integers:
https://tinyurl.com/mult-integers

Multiplying positive/negative fractions:
https://tinyurl.com/multiply-pos-neg-fractions

Dividing positive/negative integers:
https://tinyurl.com/divide-pos-neg-numbers

Dividing positive/negative fractions:
https://tinyurl.com/divide-signed-fractions

19. $4 \cdot (-3) =$	**20.** $-6 \cdot 5 \cdot -2 =$	**21.** $-8(-2) =$
22. $12 \div -6 =$	**23.** $-35 \div -5 =$	**24.** $\frac{-21}{-3} =$
25. $\frac{-56}{7} =$	**26.** $-1.2 \cdot 2.5 =$	**27.** $-3.7 \cdot -2.1 =$
28. $-\frac{3}{14} \cdot \frac{21}{12} =$	**29.** $-\frac{3}{4} \cdot -\frac{10}{9} =$	**30.** $-\frac{3}{7} \div \frac{11}{35} =$ ÷
31. $1\frac{5}{6}, (-30) =$	**32.** $-\frac{1}{9} \div \frac{13}{30} =$	**33.** $-0.81 \div -0.9 =$

Part 4: Order of Operations – Simplify each expression. Show all work.

RESOURCE LINK - Order of operations:
https://tinyurl.com/order-of-ops-Khan

34. $-12 - 5 \cdot 2 =$	**35.** $(10 - 12)^2 =$	**36.** $10 - 4(-5 - 1) =$
37. $18 \div -6 - 5 \cdot -2 =$	**38.** $9 - 2(4 - 5 - 6) =$	**39.** $-4 \cdot 7 \div 14 \cdot -5 =$

Part 5: Combining Like Terms – Simplify each expression.

RESOURCE LINK - Combining Like Terms:
https://tinyurl.com/comining-like-terms-Khan

40. $5x + 8 - 2x$	**41.** $-12 + 6n - 3n + 7$	**42.** $4g - 7g + 6 + g$
43. $x^2 + 3x + 5x + 2x^2$	**44.** $-14 + 3w - 9w + 10$	**45.** $4n^2 - 7n + 3 + 5n - 1$

Part 6: Solving One-Step Equations – Solve each equation. Show all work and check each solution.

RESOURCE LINKS:

One-Step Equations (positive/negative):
https://tinyurl.com/on-step-equations-Khan

One-Step Equations Decimals/Fractions:
https://tinyurl.com/one-step-eqtn-fraction-decimal

One-Step Equations Multiplication/Division:
https://tinyurl.com/one-step-mul-div-equations

One-Step Equations Multiplication/Division-Fractions and Decimals:
https://tinyurl.com/one-step-mul-div-frac-dec

46. $x - 15 = 25$ Check Step:	**47.** $n + -6 = 13$ Check Step:	**48.** $-7b = 35$ Check Step:
49. $\frac{x}{9} = 3$ Check Step:	**50.** $-3r = -42$ Check Step:	**51.** $-18 + c = 32$ Check Step:
52. $12.5 + h = -31.6$ Check Step:	**53.** $\frac{p}{-2} = 14$ Check Step:	**54.** $-4.2w = -8.4$ Check Step:
55. $-\frac{1}{3}x = 9$ Check Step:	**56.** $n - 19 = -21$ Check Step:	**57.** $k - (-3.8) = 4.7$ Check Step:

Part 7: Proportional Relationship Scenarios – Create a table, graph, and equation for each scenario.

RESOURCE LINKS:

Graphing Rates/Proportional Relationships:

http://tinyurl.com/graphproprelat-table

http://tinyurl.com/proprelat-equation

Mrs. Chriss is taking her family up north. She drives an average of 65 miles per hour. Create a table, graph, and equation to show the relationship between time, *t*, and distance, *d*.		
61. Table:	**62.** Graph:	**63.** Equation:
Powell is selling t-shirts to raise money for a field trip to Cedar Point. They earn a profit of $5 for every shirt they sell. Create a table, graph, and equation to show the relationship between the number of shirts they sell, *n*, and their total profit, *p*.		
64. Table:	**65.** Graph:	**66.** Equation:
Ethan planted a tree that is 20 inches tall. Create a table, graph, and equation to show the height of the tree, *h*, after *y* years, if it grows an average of 3 inches every year.		
67. Table:	**68.** Graph:	**69.** Equation:

Part 8: Proportional Relationships (Writing Equations) – Write an equation for each table and graph.

RESOURCE LINKS:

Writing equations for proportional relationships:

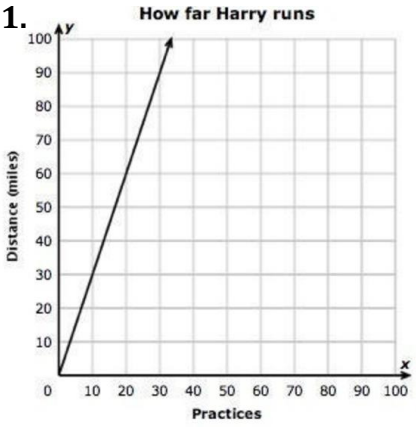
http://tinyurl.com/proprelat-writing-equations

70.

x	y
0	0
1	3
2	6
3	9
4	12

Equation:

71.



Equation:

72.

Students	Pencils
0	0
1	3
2	6
3	9
4	12

Equation:

73.

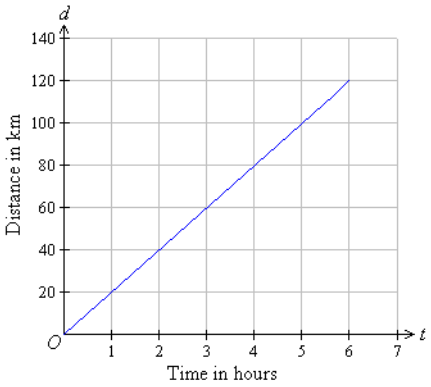
Equation:

74.

Hours	Money
0	$0
1	$9
2	$18
3	$27
4	$36

Equation:

75.



Equation: