POND ROAD MIDDLE SCHOOL
150 Pond Road
Robbinsville, NJ 08691
Tel. 609-632-0940 FAX 609-918-9011

Paul Gizzo, Principal
Michael Passafaro, Assistant Principal
Tawrye Mason, Assistant Principal

KNIGHTS

"TODAY'S LEARNERS, TOMORROW'S LEADERS"

Summer 2020

Dear Parents/Guardians,

Congratulations on the completion of your child's 7th grade year! As your child prepares for the middle school experience, it is important that he/she maintains the skills necessary to be successful. The mathematics teachers have prepared a summer packet for the students to complete. This will enhance and strengthen their skills.

This packet will be checked on the first day of school and counted as a homework grade. Please complete the packet in its entirety. Please do not leave any questions blank. All work should be shown for every question.

WE STRONGLY RECOMMEND WAITING UNTIL THE LATTER PART OF THE SUMMER TO COMPLETE THIS PACKET AS THAT WILL HELP THE STUDENTS BEST REFRESH THEIR SKILLS PRIOR TO SCHOOL BEGINNING IN SEPTEMBER!!!

Please double check that you have printed out the correct summer packet that aligns with the class your child will be taking in 8th grade. This packet is for students who will be taking **Algebra I Part 1** in 8th grade.

Some example problems have been provided for reinforcement as well as help in completing this summer packet. Please click on the link for additional help or you may visit the following websites.

www.aaamath.com
www.coolmath.com
www.funbrain.com
www.kidsnumbers.com
www.mathleague.com
www.khanacademy.org
www.mathplayground.com

Enjoy your summer break and we look forward to seeing you again in September!

Name: _____

Rising 8th Grade 2020 Summer Packet

For students entering Algebra I Part 1

PLEASE WRITE ALL ANSWERS ON THE LINES AT THE RIGHT.

SHOW ALL WORK FOR EVERY PROBLEM.

USAGE OF A CALCULATOR IS NOT ALLOWED UNTIL PART 5.

PART 1 – ORDER OF OPERATIONS

Simplify. WATCH YOUR SIGNS!!! (Example: https://goo.gl/qO2VUK)

1) $8 - 3 + 9 - 2$

2) $(-9)(-2)(3)$

3) $-30 \div -5$

4) $|4 - 13|$

5) $(-5)^2$

6) -3^2

7) -2^5

8) $(-7)^3$

9) $12 - 6 \div 2 \cdot 3$

10) $9 - (6 + 4^2)$

11) $14 + |-2|$

12) $15 + 2 - |-7|$

13) $20 - \sqrt{100} + 2(5 - 12)$

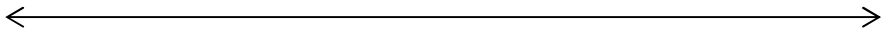
14) $\frac{5-(2-5)^2}{4+24\div 6(3)}$

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____

PART 2 – RATIONAL NUMBERS

15) Plot the following data set on the given number line. Make sure you label your points.

$\{-2.3,\ 4\frac{1}{3},\ 0.75,\ 4.5,\ \frac{30}{6},\ \left|-\frac{29}{4}\right|,\ \sqrt{81}\}$



---

16) Write the numbers in order from least to greatest.

{9.089, 9.8, 9.0, 9.08, 9.088, 9.009}

Compare using <, >, or =. Show work to justify your answer.

17) $\frac{3}{7}$ _____ 0.43

18) 3.54 _____ $3\frac{5}{9}$

Simplify. WATCH YOUR SIGNS!!!

19) 3.87 + 1.2 + 9.05

20) 23.34 – 8.95

19. _____

20. _____

21) 18.12 – (– 5.79)

22) –14.6 + 23.4 + (– 3.6)

21. _____

22. _____

23) (1.42)(–7.2)

24) 2814 ÷ 0.14

23. _____

24. _____

Simplify. Write your answers as proper or improper fractions. NO MIXED NUMBERS!

(Example: http://www.showme.com/sh/?h=NCF0t3w)

25) $-2\frac{2}{5} - 3\frac{4}{9}$

26) $27\frac{3}{4} + 11\frac{3}{7}$

25. _____

26. _____

27) $14\frac{8}{9} - 5\frac{1}{2}$

28) $23\frac{1}{4} - 7\frac{4}{5}$

27. _____

28. _____

29) $18 - 6\frac{4}{11}$

30) $-5 \cdot 1\frac{1}{7}$

29. _____

30. _____

31) $\frac{32}{48} \cdot \frac{60}{64}$

32) $5\frac{3}{5} \cdot -3\frac{4}{7}$

31. _____

32. _____

33) $5\frac{5}{8} \div 5$

34) $-8\frac{1}{3} \div -4\frac{4}{5}$

33. _____

34. _____

PART 3 – EXPRESSIONS AND EQUATIONS

Translate the following expressions and equations.

35) Eight more than triple a number

35. _____

36) The quotient of twelve and a number is five.

36. _____

37) Seven times the sum of a number and two

37. _____

38) Forty is the product of a number and nine.

38. _____

Evaluate the following if: **w = 3, x = –5, y = –2, m = 2.4, n = 7, and p = $\frac{3}{4}$**

(Example: http://www.showme.com/sh/?h=w3kFme8**)**

39) wx – yn

40) 9w – x

39. _____

40. _____

41) $x^2 - 4y$

42) $\frac{wxy + ny}{-2x}$

41. _____

42. _____

43) yp – m

44) $\frac{mx}{w} + y - 3y^2$

43. _____

44. _____

Simplify the following expressions

45) 8x – 9 + 2x + 3 – 14x

46) 10 – 8m – 4 + m – 9

45. _____

46. _____

47) 5(2x – 3) + 6

48) 5 – 4(3x + 1) + 11x

47. _____

48. _____

---

49) State how you would check to see if **7** is a solution to the given equation.
DO NOT SOLVE THE EQUATION!!!

3x – 5 = 12

Solve the following equations. Show all work.

(Example: http://www.showme.com/sh/?h=ujv9Ck4**)**

50) $x + 6 = -9$

51) $\frac{x}{8} = -5$

50. _____

51. _____

52) $12 = -2n$

53) $14 + y = -11$

52. _____

53. _____

54) $5x + 9 = 44$

55) $7 + \frac{3}{5}x = 4$

54. _____

55. _____

56) $-5 + \frac{x}{4} = 11$

57) $-50 = -3x - 14$

56. _____

57. _____

Write and solve an equation for the following.

58) Baseballs cost $4 each. If you buy some baseballs and a $60 bat and spend $124, how many baseballs did you buy?

58. Equation: _____

Solution: _____

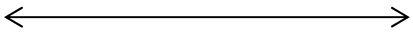
59) John went to the carnival with $54. He paid $6 to get in and he went on some rides that all cost $3 each. If he spent all of his money, how many rides did he go on?

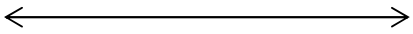
59. Equation: _____

Solution: _____

PART 4 – INEQUALITIES

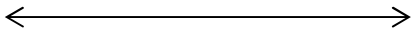
Graph the following inequalities on the number line

60) $x < -5$ 60. 

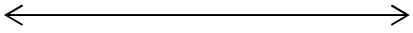
61) $x \geq 2$ 61. 

Write an inequality for the following scenarios. Graph on the number line.

62) The oldest tree in the forest is 120 years old.
Write an inequality for the age, a, of **all the trees** in the forest. 62. _____



63) The smallest species of frog is 7.7 millimeters long.
Write an inequality for the height, h, of all the **other** frog species. 63. _____



Solve the following inequalities. Show all work. (Example: https://goo.gl/gLwqE0)

64) $x - 9 \geq -12$

65) $24 < 3x$

64. _____

65. _____

66) $\frac{x}{-7} > -1$

67) $-8x \leq 48$

66. _____

67. _____

68) $4 + 2x \leq -20$

69) $-7x + 7 > 21$

68. _____

69. _____

YOU SHOULD USE A CALCULATOR FOR THE REST OF THE PACKET

PART 5 – RATES/RATIOS/PROPORTIONS

Find the unit rate

70) work for 12 hours and earn $140 70. _____

71) travel 900 miles in 15 hours 71. _____

Solve the following proportions. Round answer to the nearest tenth.

72) $\frac{3}{7} = \frac{11}{x}$ 73) $\frac{y}{3} = \frac{191}{20}$ 72. _____

73. _____

---

74) If Susan can read 40 pages in 12 minutes, how many pages can she read in 50 minutes?

74. _____

75) The key on a map says 2 inches equals 7 miles. If two cities are 9 inches apart on the map, how far apart are they in real life?

75. _____

PART 6 – PERCENTS

Convert to a decimal.

76) $\frac{7}{20}$ 77) 31% 78) $\frac{4}{9}$ 76. _____

77. _____

78. _____

Convert to a fraction.

79) 3.25 80) 8% 81) 0.125 79. _____

80. _____

81. _____

Convert to a percent.

82) 0.84 83) $\frac{2}{3}$ 84) 6.12 82. _____

83. _____

84. _____

Estimate using fractions (not proportions)

85) 34% of 15 86) 74% of 81 85. _____

86. _____

---

87) 56 is what percent of 80? 88) 19 is 20% of what number 87. _____

88. _____

Solve the following problems using any method.

89) 30 students in grade 8 finished their summer packet before August 15. This was 12% of all the students. How many students are in grade 8?

89. _____

90) There are 1,200 people at the beach. If 88% of them went in the water, how many people **DID NOT** go in the water?

90. _____

91) A $800 T.V. is on sale for 15% off. What is the cost of the T.V.?

91. _____

92) You go out to dinner and the bill is $45.12. You want to leave an 18% tip. In total, how much money should you leave?

92. _____

93) A car dealership buys a car for $20,500 and marks up the price by 12%. How much does the dealership sell the car for?

93. _____

94) The cost of a calculator is $31. If the tax rate is 7%, what is the final cost of the calculator?

94. _____