The Math Department at Quarry Lane School has a challenging and enriching curriculum. We want to ensure each student is well prepared for the following school year. It's important for our students to keep up with their math skill over for the long summer break. Studies indicate that students lose a huge percentage of what they learned from the prior school year. In order to be proactive, Quarry Lane School Math Department would like to provide you with the following math grade level supplements.

These packets are for your student to practice during the long summer break. Each packet contains practice worksheets. Your student can do the practice worksheets at their own pace. Please encourage your student to complete this work and grade it using the answer keys provided.

Have a safe and fun-filled summer!

Name:_____

SUMMER MATH PRACTICE
Students entering Algebra

Directions: Copy the problems onto notebook paper or graph paper. Using a pencil, show all work. NO CALCULATORS ARE PERMITTED FOR ANY SECTION. Copy your answers onto the answer key and staple your work to the back. This needs to be turned in on your first full day of math class.

Simplify each expression.

1) $2 + 6 \times 8 \div 4$

2) $10 \div 5 \times 2 + 6$

3) $4 + (20 \times 3)$

4) $30 - 2^2 + (5 + 5)$

5) $(8-5)^2 \times 2 + 5$

6) $10^2 \div 10 + 8 \times 4$

7) $-2(5 - 8) \div 18 \div 3$

8) $5 + 8 \div 8 \times 2$

Evaluate when x = 3, y = 1, and z = 2

9) $12 - (z - y)^2$

10) $3 + [(13 - x) \times 21]$

11) $\dfrac{y}{z+3y}$

12) $\left|\dfrac{z+2}{y+1}\right|^2 \div 4$

Write the mixed number as an improper fraction.

13) $9\frac{3}{7}$

14) $7\frac{5}{6}$

Write each fraction as a whole number or mixed number in simplest form.

15) $\frac{22}{8}$

16) $\frac{43}{9}$

Evaluate. Put fractional answers in simplest form.

17) $\frac{2}{9}+\frac{5}{9}$

18) $\frac{1}{7}+\frac{3}{5}$

19) $1\frac{7}{10}+4\frac{2}{5}$

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

21) $\frac{5}{9}-\frac{1}{4}$

22) $7\frac{1}{6}+9\frac{1}{2}$

23) $\frac{2}{3}\cdot 9$

24) $-\frac{4}{7}\cdot\frac{3}{4}$

Evaluate. Put fractional answers in simplest form.

25) $3\frac{1}{2} \cdot 1\frac{6}{7}$

26) $1\frac{2}{5} \div 2\frac{5}{7}$

27) $\frac{8}{9} \div \frac{6}{36}$

28) $10 \div 3\frac{1}{3}$

29) 9.18 + 6.45

30) 0.9 + 15.67

31) 25.6 + 4.8 + 35.07

32) 8.87- 6.53

Evaluate. Put fractional answers in simplest form.

33) 5.2 – 0.87

34) 17.5 – 5.681

35) 2.5 x 8.5

36) (-4.8)(7.27)

37) 6.3 ÷ 9

38) 106.83 ÷ 0.09

39) (-19) + 8

40) (-23) + (-15)

41) 9 – 22

42) (-14) – 16

43) (-37) – (-26)

44) (-8)(-12)

45) (16)(-13)

46) $\frac{-45}{15}$

Round to the nearest hundredth.

47) 6.543

48) 0.767

Round to the nearest whole number.

49) 9.45

50) 76.854

Write each decimal as a percent.

51) 0.22

52) 0.03

Write each percent as a decimal.

53) 82%

54) 7%

Write each percent as a fraction in lowest terms.

55) 66%

56) 40%

Write each fraction as a percent and as a decimal.

57) $\frac{3}{10}$

58) $\frac{17}{50}$

Solve.

59) What number is 5% of 186?

60) What number is 75% of 192?

61) What percent of 25 is 20?

62) 25% of what number is 6?

63) $2x < -14$ (graph the solution as well as solve)

64) $r - 8 > -10$ (graph the solution)

Simpfily each expression

65) $4s \cdot 8s^2$

66) $(5x)^3$

67) $y^2 \cdot y^3$

68) $(x + 2)(x - 3)$

Write an equation or inequality for each sentence. Use n for the variable.

69) A number increased by one is one-half of twenty-four.

70) Seventeen is 42 minus one-half of a number.

71) Eighteen times a number is 36.

72) Four more than a number is less than 38.

73) Eight times the sum of a number and three is 35.

74) Four more than five times a number is less than or equal to 39.

Solve each equation.

75) $n + 484 = 581$

76) $n - 6 = 24$

77) $n - 152 = 634$

78) $n + 37 = 2134$

79) $7n = 56$

80) $57n = 171$

Solve each equation.

81) $\frac{n}{32} = 18$

82) $2n + 5 = 9$

83) $3n - 2 = 10$

84) $\frac{n}{2} + 5 = 10$

On graph paper, graph the following points and label them.

85) (5,5)

86) (3,-2)

87) (-4,-3)

88) (-5,4)

Simplify by combining like terms or by using the distributive property.

89) $2x + 5x + 7$

90) $3(x - 4)$

91) $5y + 8x + 9y + x$

92) $-5(3r + 8a)$

Solve each proportion.

93) $\frac{3}{z} = \frac{1}{8}$

94) $\frac{-4}{9} = \frac{7}{x}$

95) $\frac{f+3}{12} = \frac{7}{2}$

96) $\frac{9}{2} = \frac{5}{x+1}$

Solve.

97) Tara bought two sweaters. One sweater cost $19.95. The second sweater cost $3.55 more. How much did the second sweater cost?

98) A recipe calls for $1\frac{1}{4}$ cup of sugar and $1\frac{1}{3}$ cup butter. Which is greater, the amount of sugar or the amount of butter?

99) Yoshi's care travels 18 miles on a gallon of gas. How far could the car travel on 17.6 gallons of gas?

100) An equilateral triangle has a perimeter of 53.1 centimeters. What is the length of one of its sides?

101) Vince went to Burger Delite for dinner. He ordered a Jumbo Burger for $2.19, medium fries for $0.89, and a vanilla shake for $1.19. Tax on his order was $0.35. What was the total cost of his order?

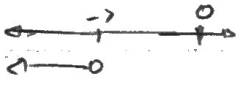
102) An art teacher is cutting a piece of string 48 feet long into equal pieces to give to 15 students. How long should each piece be?

103) Jeff saved 12% on a coat that was marked $108. How much money did Jeff save?

104) Eric's paycheck for one pay period was $200. His next paycheck was $190. What percent decrease is this?

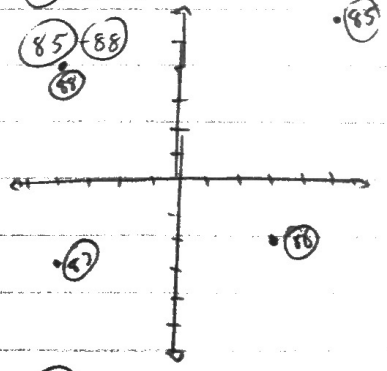
8TH GRADE / ALGEBRA 1

1. 14
2. 10
3. 64
4. 36
5. 23
6. 42
7. 12
8. 7
9. 4
10. 213
11. $\frac{1}{5}$
12. 1
13. $\frac{66}{7}$
14. $\frac{47}{6}$
15. $2\frac{3}{4}$
16. $4\frac{7}{9}$
17. $\frac{7}{9}$
18. $\frac{26}{35}$
19. $\frac{61}{10}$
20. $\frac{7}{9}$
21. $\frac{11}{36}$
22. $\frac{50}{3}$
23. 6
24. $-\frac{3}{7}$
25. $\frac{13}{2}$
26. $\frac{49}{95}$
27. $\frac{16}{3}$
28. 3
29. 15.63
30. 16.57
31. 65.47
32. 2.34
33. 4.33
34. 11.819
35. 21.25
36. -34.896
37. 0.7
38. 1187
39. -11
40. -38
41. -13
42. -30
43. -11
44. 96
45. -208
46. -3
47. 6.54
48. 0.77
49. 9
50. 77
51. 22%
52. 3%
53. 0.82
54. 0.07
55. $\frac{33}{50}$
56. $\frac{2}{5}$
57. 30%, 0.3
58. 34%, 0.34
59. 9.3
60. 144
61. 80%
62. 24
63. $x < -7$



64. $r > -2$

65. $32s^3$
66. $125x^3$
67. y^5
68. $x^2 - x - 6$
69. $n + 1 = \frac{1}{2}(20)$
70. $17 = 42 - \frac{1}{2}n$
71. $18n = 36$
72. $4 + n < 38$
73. $8(n + 3) = 35$
74. $5n + 4 \leq 39$
75. $n = 97$
76. $n = 30$
77. $n = 786$
78. $n = 2097$
79. $n = 8$
80. $n = 3$
81. $n = 576$
82. $n = 2$
83. $n = \frac{8}{3}$
84. $n = 10$



89. $7x + 7$
90. $3x - 12$
91. $9x + 14y$
92. $-15r - 40a$

(93) $z = 24$

(94) $x = -15.75$

(95) $f = 39$

(96) $x = \frac{1}{7}$

(97) $23.5

(98) butter

(99) 316.8 miles

(100) 17.7 cm

(101) $4.62

(102) 3.2 ft

(103) $12.96

(104) 5%