Name: **Date:**

Summer Math (6th Grade): *Show ALL work on separate sheets of paper to receive credit. This will count as a test grade and must be submitted on the first day of school.*

Place Value:

1) How many decimal places are there in the number 5.102347?
2) In the number 876,543,210,009 which digit is in the ten millions place?
3) In the number 5.102347, which digit is in the hundred-thousandths' place?
4) Write the number 64,019.08 using words. Include hyphens were appropriate.
5) Write the number three million, fifteen and five thousandths using digits.
6) Write the number 9,876 using expanded notation.

Rounding:

Round the following to the nearest underlined digit:

7) 1856.9\underline{3}$2
8) 185\underline{6}$.932
9) 18\underline{5}$6.932
10) $\underline{1}$856.932
11) 8$\underline{9}$0,015
12) $\underline{8}$90,015
13) 890,0$\underline{1}$5
14) 89$\underline{0}$,015
15) 0.0$\underline{0}$7293
16) 0.007$\underline{2}$93
17) 0.007$\underline{2}$93
18) 0.00$\underline{7}$293
19) $\underline{5}$,530
20) 10.$\underline{9}$98
21) $\underline{9}$90,990
22) 69,9$\underline{0}$8

Reduce the following to Lowest Terms:

23) $\frac{8}{16}$
24) $\frac{10}{12}$
25) $\frac{16}{18}$
26) $\frac{32}{40}$
27) $\frac{3}{9}$
28) $\frac{54}{81}$
29) $\frac{120}{150}$
30) $\frac{9}{15}$
31) $\frac{22}{24}$
32) $\frac{8}{12}$
33) $\frac{15}{18}$
34) $\frac{10}{25}$
35) $\frac{24}{36}$
36) $\frac{4}{8}$
37) $\frac{18}{42}$
38) $\frac{27}{36}$
39) $\frac{16}{64}$
40) $\frac{21}{28}$
41) $\frac{20}{35}$
42) $\frac{100}{140}$

Fractions:
Solve. All answers should be in lowest terms.

43) $\frac{1}{6}+\frac{2}{6}$

44) $\frac{5}{6}\div\frac{1}{3}$

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

46) $12-\frac{4}{5}$

47) $\frac{1}{5}\times\frac{3}{4}$

48) $\frac{3}{4}-\frac{1}{4}$

49) $\frac{8}{9}\div\frac{1}{3}$

50) $6\div\frac{1}{6}$

51) $\frac{7}{8}+\frac{1}{12}$

52) $\frac{4}{7}\times\frac{3}{4}$

53) $10-\frac{1}{5}$

54) $\frac{1}{10}+5$

55) $\frac{3}{4}\times 8$

56) $12\div\frac{3}{4}$

57) $0\times\frac{5}{9}$

58) $\frac{2}{3}\div\frac{4}{9}$

Decimals: Solve. Some quotients will have remainders.

59) 20 – 4.578

60) 89 + 15.6

61) 100 + 75.01

62) 823 – 199

63) 500 – 16.7

64) 19.1 + 151

65) (5.1)(0.65)

66) 20.5 + 42

67) 86.4 – 3

68) 3600 ÷ 32

69) 22.1(3.9)

70) (22)(1.07)

71) 6.5 ÷ 2

72) 14.65(0.33)

73) (0.0047)(6.6)

74) 100.2 ÷ 3

75) 357 ÷ 15

76) 140 – 0.98

77) 5000 ÷ 150

78) 6400 ÷ 25

Factorization:

79) List all factors of 100 in order from least to greatest. Which factors are prime?

80) List all factors of 48 in order from least to greatest. Which factors are prime?

81) List the first five multiples of 15.

82) List the first five multiples of 18.

83) Find the prime factorization of 80 (use a factor tree!)

84) Find the GCF (Greatest Common Factor) of 24 and 40 by listing all the factors.

85) Find the GCF (Greatest Common Factor) of 36 and 50 by listing all the factors.

86) Find the LCM (Least Common Multiple) of 6 and 8 by listing multiples of each.

87) Find the LCM (Least Common Multiple) of 10 and 12 by listing multiples of each.

Geometry:

88) What is the name of a quadrilateral in which all sides are equal and parallel?
What is the name of a polygon with 5 equal sides? 8 equal sides? 10 equal sides?

89) What is the difference between the words scalene and isosceles? Acute and obtuse?
What is the difference between a point, line, segment, and a ray?
What is the difference between a diameter and a chord of a circle?

90) What is the geometric name of a basketball?

91) Draw a picture of a trapezoid.

92) Find the Perimeter of:
A) A rectangle whose length is 19.5 yd and whose width is 24.6 yd. Draw a picture and show all work. If you know the formula, use it.
B) An isosceles triangle whose sides measure 4.5 m and whose base is 6.2 m. Draw a picture and show all work. If you know the formula, use it.

93) Find the Area of:
A) A triangle whose base is 8.5, height is 10.3, and sides are 4.6.
B) A square whose sides measure 9 yards.
C) A circle whose radius is 10 in.

Word Problems:

94) There are 80 adults in a theater. If there are 20 children in the theater, what is the ratio of children to all adults? Your answer should be in reduced form.

95) Find the mean, median, mode, and range of the following data: 50, 65, 70, 75, 80, 89, 92

96) Your mother bought you an outfit that cost $34.99. If the tax was $4.31, how much did she owe in all? How much change did she receive if she gave the cashier a one-hundred dollar bill?

97) A bug was flying aimlessly in the sky. It flew in straight lines. It began by flying east for 8 miles, then west on the same exact path for 12 miles. It turned again and flew east for another 17 miles, and lastly west for 21 miles until it stopped. Where did it finally land? (Be specific. EX: 20 miles east.)

98) There were 1,025 pieces of large candy left in a small store. Any 25 pieces of the leftover candy sold as a bundle that costs $8.50. How much money did the store make if all 1,025 pieces of candy were sold?

99) There were 9 chaperones who could attend the 6^{th} grade field trip. Students were grouped evenly with one chaperone. If there were 50 students total, how many students were there at maximum in each group?

100) How many inches are in 5 feet? How many grams are in 1500 milligrams?