

Father Judge High School

Summer Math Packet

TO: All students entering Algebra I
September, 2010

FROM: The Mathematics Department

RE: Summer Mathematics Work

Each student entering Algebra I in September of 2010 is required to complete a summer assignment which will be collected on September 13th by your Algebra teacher. The assignment will be graded and included in your First Quarter grade.

Please complete each of the exercises in your packet. You must show your work for each problem on a separate work sheet where everything is clearly labeled. Place your final answer on the answer sheet which is provided. Be sure your name appears on each sheet, the answer sheet and each page of your work.

Please complete as much of the assignment on your own. Accuracy and neatness in mathematics are important. If you are confused on a certain concept, refer to a resource book or go online for help.

www.drmath.com

www.mathisfun.com

www.webmath.com

www.mathgoodies.com

www.domath.org

www.bjpinchbeck.com

www.afterschool.to

www.math.com

www.coolmath.com

We suggest that you do one assignment per week. This pacing will allow you to digest and understand the information. Do not leave all this work for one or two days at the end of the summer.

Have a safe and enjoyable summer! We look forward to welcoming you in the Fall!

The Mathematics Faculty

Assignment #1

Questions # 1 - 19

List the factors of each number. Name the greatest common factor and the least common multiple of the two numbers.

1. 21, 49

2. 99, 33

3. 48, 52

Write the prime factorization of the number. If the number is prime, write *prime*.

4. 84

5. 117

6. 41

Compare the two numbers. Write your answer using $<$, $>$, or $=$.

7. $\frac{7}{20} \bigcirc \frac{9}{30}$

8. $111.10 \bigcirc 111.08$

9. $2\frac{4}{5} \bigcirc \frac{14}{5}$

Write the numbers in order from least to greatest.

10. 3368, 3168, 3367, 3370

11. 16.01, 16.005, 16.42, 16.0009

12. $\frac{1}{2}, \frac{3}{7}, \frac{2}{3}, \frac{8}{9}$

13. $3\frac{1}{2}, 4\frac{1}{3}, 4\frac{1}{2}, 3\frac{3}{4}$

Find the sum or difference.

14. $169 + 215$

15. $368.5 - 79.83$

16. $72.62 + 84.9 + 56.48$

Find the product or quotient. If necessary, round to the nearest hundredth.

17. 8.2×4.3

18. $5.35 \div 0.5$

19. $96 \div 6.2$

Assignment #2

Questions # 20 - 35

Find the sum or difference.

$$20. \frac{1}{3} + \frac{7}{9}$$

$$21. 1\frac{3}{10} + 2\frac{5}{6}$$

$$22. 8\frac{5}{8} - 3\frac{23}{24}$$

Find the reciprocal of the number.

$$23. \frac{3}{5}$$

$$24. 16$$

$$25. 6\frac{3}{7}$$

Find the product or quotient.

$$26. \frac{2}{4} \times 18$$

$$27. \frac{1}{6} \div \frac{9}{14}$$

$$28. \frac{11}{12} \div 3\frac{5}{8}$$

Write each ratio as a fraction in simplest form.

$$29. 5 : 10$$

$$30. 18 : 15$$

Find the unit rate.

$$31. 165 \text{ miles in 3 hours}$$

$$32. \$18,000 \text{ in 12 months}$$

33. John worked for 7 hours and got paid \$42. Rhonda worked for 9 hours and got paid \$63. Are both John and Rhonda paid the same rate per hour?

Find the missing number.

$$34. \frac{9}{12} = \frac{?}{4}$$

$$35. \frac{5}{12} = \frac{15}{?}$$

Assignment #3

Questions # 36 - 50

Write each fraction or mixed number as a decimal and as a percent. If necessary, round to the nearest tenth of a percent.

36. $\frac{9}{10}$

37. $1\frac{5}{8}$

38. $2\frac{2}{3}$

Write each decimal as a percent and as a fraction or mixed number in simplest form.

39. 0.7

40. 0.425

41. 1.64

Write each percent as a decimal and as a fraction or mixed number in simplest form.

42. 66%

43. 0.2%

44. 150%

Find the percent of the number.

45. 40% of 25

46. 5% of 96

47. 122% of 45

Find the percent. If necessary, round to the nearest tenth of a percent.

48. 3 out of 25

49. 7 out of 40

50. 13 out of 18

Assignment #4

Questions # 51 - 59

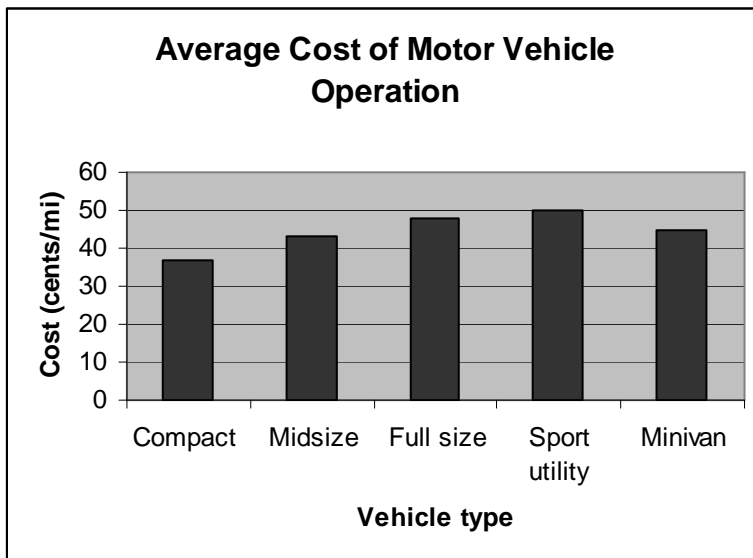
Find the mean, the median, the mode(s), and the range for each set of data. If necessary, round your answers to the nearest hundredth.

51. Cost of CDs: \$11.99, \$8.95, \$12.99, \$14.95, \$12.99

52.

<i>All-Time Leading Touchdown Scorers</i>	
Jerry Rice	165
Marcus Allen	134
Jim Brown	126
Walter Payton	125
John Riggins	116

For Exercises 53 and 54, use the bar graph.

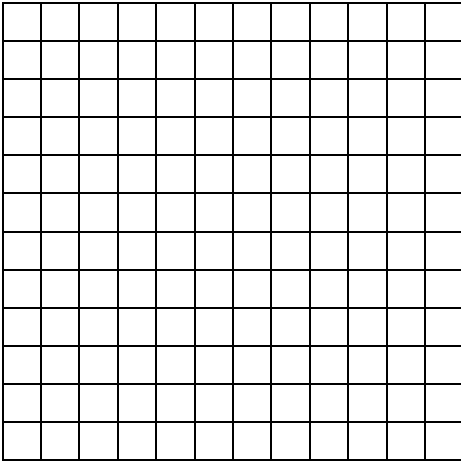


53. Estimate the average cost of operating a sport utility vehicle.

54. Which types of vehicles cost 45 cents/mile or less?

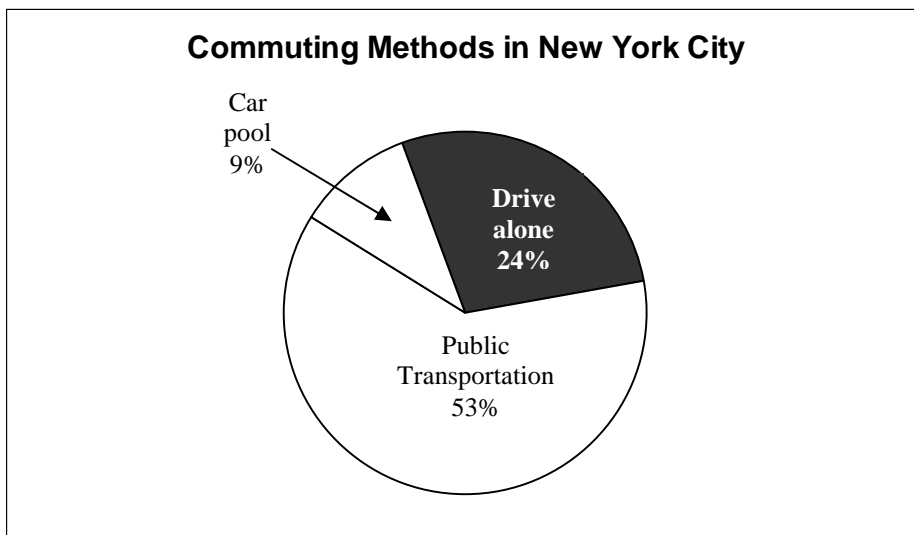
Assignment #4 Continued

55. On the grid below, draw a line graph to display the temperature data in the table.



Average High Temperature (F°) in Portland, Oregon												
Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
45°	51°	56°	61°	67°	74°	80°	80°	75°	64°	53°	46°	

For Exercises 56 and 57, use the circle graph

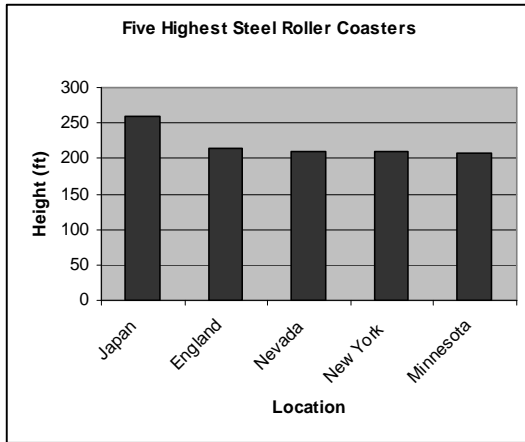


56. Suppose that the number of people commuting in New York City is about 9 million. About how many people take public transportation?
57. Suppose that the number of people commuting in New York City is about 9 million. About how many more people drive alone than carpool?

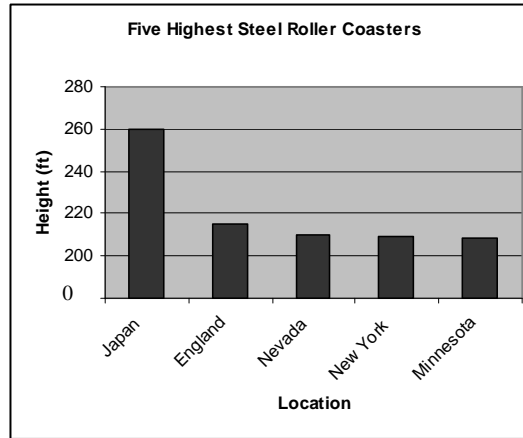
Assignment #4 Continued

For Exercises 58 and 59, use the two graphs below that illustrate the same data.

Graph A



Graph B

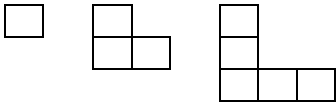


58. Which graph gives the visual impression that the Roller Coaster in Japan is more than twice as high as the Roller Coaster in England? Is this impression correct?
59. Why do these graphs give such a different visual impression?

Assignment #5

Questions # 60 - 70

For Exercises 60-62, use the figures to find a pattern.



60. Draw the next two figures in the pattern.

61. Use the table to predict how many squares will be in the seventh figure in the pattern.

<i>Figure Number</i>	1	2	3
Number of squares	1	3	5

62. Predict how many squares will be in the 20th figure.

For Exercises 63-65, complete the statement.

63. A _____ is a point where the sides of a polygon meet.

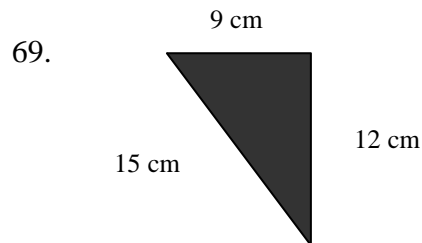
64. A polygon with four sides is a _____.

65. A rectangle that has four congruent sides is a _____.

66. Sketch a triangle that is not regular.

67. Sketch a figure made up of line segments that is not a polygon.

Find the perimeter and area of each polygon.



70. Find the circumference and area of a circle with diameter of 36 ft.
Use 3.14 for π .

Assignment #6**Questions # 71 - 85**

Find the opposite and the absolute value of the integer.

71. 16

72. 0

73. -8

Write the set of integers in order from least to greatest.

74. 1, 0, -3

75. 6, -2, 5, -7

Find each sum.

76. $-12 + 15$

77. $-25 + (-41)$

78. $-24 + 21$

79. $37 + (-37)$

Find each difference.

80. $-15 - 30$

81. $-28 - (-20)$

82. $24 - 40$

Find each product or quotient.

83. $8(-5)$

84. $-48 \div (-6)$

85. $(-3)(7)(-2)$

Name _____

Math Teacher _____

- | | | |
|------------------|-------------------|--------------------|
| 1. Factors _____ | 17. _____ | 39. _____ |
| 1. Factors _____ | 18. _____ | 39. percent _____ |
| 1. GCF _____ | 19. _____ | 39. fraction _____ |
| 1. LCM _____ | 20. _____ | 40. percent _____ |
| 2. Factors _____ | 21. _____ | 40. fraction _____ |
| 2. Factors _____ | 22. _____ | 41. percent _____ |
| 2. GCF _____ | 23. _____ | 41. fraction _____ |
| 2. LCM _____ | 24. _____ | 42. decimal _____ |
| 3. Factors _____ | 25. _____ | 42. fraction _____ |
| 3. Factors _____ | 26. _____ | 43. decimal _____ |
| 3. GCF _____ | 27. _____ | 43. fraction _____ |
| 3. LCM _____ | 28. _____ | 44. decimal _____ |
| 4. _____ | 29. _____ | 44. fraction _____ |
| 5. _____ | 30. _____ | 45. _____ |
| 6. _____ | 31. _____ | 46. _____ |
| 7. _____ | 32. _____ | 47. _____ |
| 8. _____ | 33. _____ | 48. _____ |
| 9. _____ | 34. _____ | 49. _____ |
| 10. _____ | 35. _____ | 50. _____ |
| 11. _____ | 36. decimal _____ | 51. Mean _____ |
| 12. _____ | 36. percent _____ | 51. Median _____ |
| 13. _____ | 37. decimal _____ | 51. Mode _____ |
| 14. _____ | 37. percent _____ | 51. Range _____ |
| 15. _____ | 38. decimal _____ | |
| 16. _____ | 38. percent _____ | |

52. Mean _____

64. _____

81. _____

52. Median _____

65. _____

82. _____

52. Mode _____

66. Sketch

83. _____

52. Range _____

84. _____

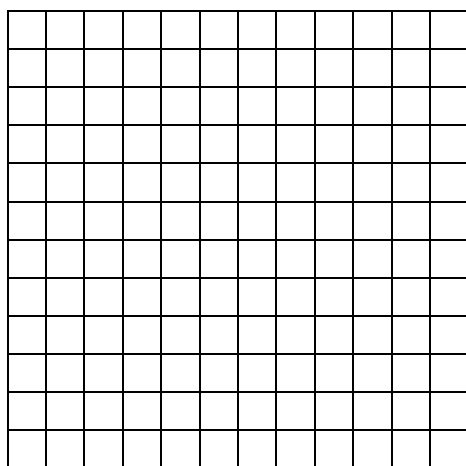
53. _____

67. Sketch

85. _____

54. _____

55.



68. Perimeter _____

68. Area _____

69. Perimeter _____

69. Area _____

70. Circumference _____

70. Area _____

71. Opposite _____

56. _____

71. Absolute Value _____

57. _____

72. Opposite _____

58. _____

72. Absolute Value _____

59. _____

73. Opposite _____

60. Figure 4

73. Absolute Value _____

74. _____

60. Figure 5

75. _____

76. _____

61. _____

78. _____

62. _____

79. _____

63. _____

80. _____