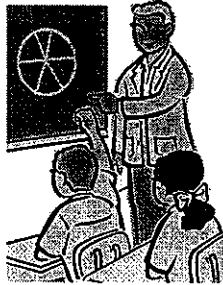


Math



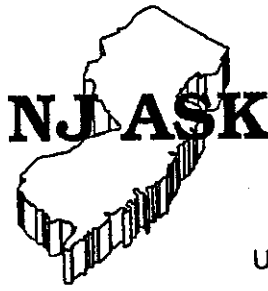
Summer Packet

Name _____

- ✓ This packet is due on Tuesday, September 7, 2010
- ✓ Use a pencil and show all work. If there is not enough room in this packet for you to do so, please write it on lined notebook paper.
- ✓ NO calculators are permitted!
- ✓ Write all your answers on the answer sheet provided.
- ✓ This will be a graded assignment and will be counted towards your first marking period grade.
- ✓ An NJASK Formula sheet has been provided for you if you need it.
- ✓ If you have trouble, you may use the Cliffside Park Website (<http://www.cliffsidepark.edu>) to email either Ms. Giordano or Mrs. Bonomo.

You may also check out the following websites to help you.

- <http://www.aplusmath.com>
- <http://amathdictionaryforkids.com>
- <http://funbrain.com>
- <http://math.com>
- <http://mathtv.com>



New Jersey Assessment of Skills and Knowledge 2007 Grade 7 MATHEMATICS REFERENCE SHEET

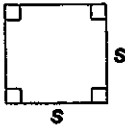
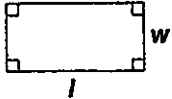
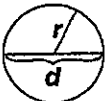
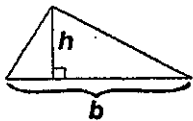
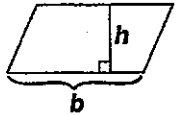
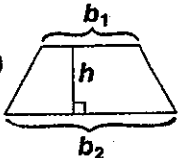
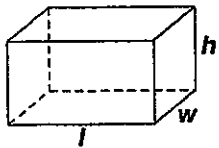
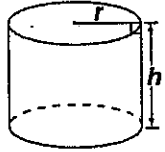
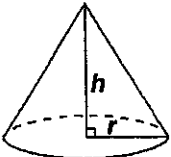
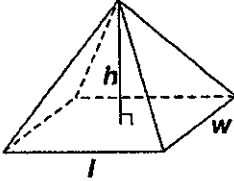
Use the information below to answer questions on the Mathematics section of the
2007 Grade Seven Assessment of Skills and Knowledge (NJ ASK 7).

The sum of the measures of the interior angles of a triangle = 180°

Distance = rate \times time

Simple Interest Formula: $A = p + prt$ Compound Interest Formula: $A = p(1 + r)^t$

A = amount after t years; p = principal; r = annual interest rate; t = number of years

$\pi \approx 3.14$ or $\frac{22}{7}$	Square Area = s^2 Perimeter = $4s$ 	Rectangle Area = lw Perimeter = $2l + 2w$ 	
Circle Area = πr^2 Circumference = $2\pi r$ = πd 	Triangle Area = $\frac{1}{2}bh$ 	Parallelogram Area = bh 	
Trapezoid Area = $\frac{1}{2}h(b_1 + b_2)$ 	Rectangular Prism Volume = lwh Surface Area = $2lw + 2wh + 2lh$ 	Cylinder Volume = πr^2h Surface Area = $2\pi rh + 2\pi r^2$ 	
Cone Volume = $\frac{1}{3}\pi r^2h$ 	Pyramid Volume = $\frac{1}{3}lwh$ 		

USE THE FOLLOWING EQUIVALENTS FOR YOUR CALCULATIONS

60 seconds = 1 minute 60 minutes = 1 hour 24 hours = 1 day 7 days = 1 week 12 months = 1 year 365 days = 1 year	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">12 inches = 1 foot</td> <td style="width: 33%;">10 millimeters = 1 centimeter</td> </tr> <tr> <td>3 feet = 1 yard</td> <td>100 centimeters = 1 meter</td> </tr> <tr> <td>36 inches = 1 yard</td> <td>10 decimeters = 1 meter</td> </tr> <tr> <td>5,280 feet = 1 mile</td> <td>1000 meters = 1 kilometer</td> </tr> <tr> <td>1,760 yards = 1 mile</td> <td></td> </tr> </table>	12 inches = 1 foot	10 millimeters = 1 centimeter	3 feet = 1 yard	100 centimeters = 1 meter	36 inches = 1 yard	10 decimeters = 1 meter	5,280 feet = 1 mile	1000 meters = 1 kilometer	1,760 yards = 1 mile	
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36 inches = 1 yard	10 decimeters = 1 meter										
5,280 feet = 1 mile	1000 meters = 1 kilometer										
1,760 yards = 1 mile											
8 fluid ounces = 1 cup 2 cups = 1 pint 2 pints = 1 quart 4 quarts = 1 gallon 1000 milliliters (mL) = 1 liter (L)	16 ounces = 1 pound 2,000 pounds = 1 ton 1000 milligrams = 1 gram 100 centigrams = 1 gram 10 grams = 1 dekagram 1000 grams = 1 kilogram										

Section 1: Algebraic Equations

Write each sentence as an algebraic equation. Then Solve!!!

Example: seven more than three times a number is thirty four.

$$3x + 7 = 34 ; x = 9$$

With two step equations, you must use inverse (opposite) operations to isolate the variable. Addition and subtraction must be complete before multiplication and division.

1. Five less than seven times a number is 9.
2. Ten inches less than her height is 50 inches.

Solve each algebraic equation.

3. $x - 9 = -12$

4. $4t + 3.5 = 12.5$

5. An online retailer charges \$6.99 plus \$0.55 per pound to ship electronics purchases. How many pounds is a DVD player for which the shipping charge is \$11.94?

Section 2: Decimals, Place Values, and Order of Operations

6. Write seven and ninety-six thousandths as a decimal.
7. Write 9.204 in words
8. Write the following decimals in order from least to greatest: 7.21, 0.712, 72.1, 0.721

9. Round 96.3721 to the nearest tenth.
10. Round 15,763.753 to the nearest hundredth
11. Round 123.9842 to the underlined digit.
12. $4 \times (5^2 - 12) - 6$
13. $9 \times 7 \times (15 + 3) / 3^2$

Section 3: Operations with Decimals and Fractions

Rules with decimals:

When adding and subtracting, line up the decimal points

When multiplying and dividing, line up the numbers

Rules with Fractions:

When adding and subtracting, a common denominator is needed

When multiplying and dividing, a common denominator is NOT needed.

14. Write 8 and $5/11$ as an improper fraction
15. Write $25/4$ as a mixed number
16. $75.87 - 45.91$
17. $1.309 + 2.46 + 28.6$

18. 38.6×0.4

19. 23.4×3.6

20. $16.8 \div 4$

21. $35.4 \div 3$

22. $7,354 \div 0.01$

23. $5.697 \times 10,000$

24. $9/12 + 3/8$

25. $2/7 + 4/9$

26. $9 \text{ and } 8/10 - 7 \text{ and } 3/5$

27. $5/9 \times 2/3$

28. $9/13 \div 4/7$

29. Write the ratio 100:140 in simplest form

30. Write the ratio 32:43 in simplest form.

Compare the fractions. Use $<$, $>$, or $=$.

***Tip: find a common denominator for each pair of fractions, or convert them all to decimals to make comparison easier!**

31. $1/4$ _____ $2/3$

32. $3/7$ _____ $2/6$

33. $3/5$ _____ $4/7$

Section 4: Converting between Fractions, Decimals, and Percents

Percent to Decimal: move decimal point two times to left

Decimal to Percent: move decimal point two times to right

Decimal to Fraction: write number over correct power of 10 and simplify

Fraction to Decimal: Divide numerator by denominator

Fraction to Percent: Divide numerator by denominator, move decimal point two times to the right

34. Convert 35% to a decimal

35. Convert 0.85 to a fraction

36. Convert 0.153 to a percent

37. Convert $\frac{4}{5}$ to a decimal

38. Convert 45% to a fraction

39. Convert $\frac{3}{5}$ to a percent

Section 5: Integers

Adding Integers:

Same Signs: add the numbers, and keep the sign

Different Signs: subtract the numbers and keep the sign of the bigger one

Subtracting Integers:

Keep, Change, Opposite

Multiplying and Dividing Integers:

Same Signs: multiply/divide the numbers, your answer is positive

Different Signs: multiply/divide the numbers, your answer is negative

40. Write an integer to represent a profit of \$20

41. Write an integer to represent a withdrawal of \$11

42. Write an integer to represent a deposit of \$9

43. $-15 + 8$

44. $-32 + (-40)$

45. $45 - 108$

46. $-135 + (-86)$

47. $62 - (-54)$

48. $-76 - 48$

49. -5×-7

50. -8×4
51. $-100 \div -5$
52. -145×-2
53. Order from least to greatest: -50, 190, 80, 75, -60
54. Order from least to greatest: 1, -5, -8, -2, -3, 9
55. Order from greatest to least: -18, -3, -8, 9, 4, 12
56. Order from greatest to least: 82, -19, 35, 15, -1

Section 6: Unit Conversions and Unit Rates

16 ounces = 1 pound 8 ounces = 1 cup 2 pints = 1 quart
2000 pounds = 1 ton 2 cups = 1 pint 4 quarts = 1 gallon

57. 12 yds = _____ ft
58. 3 gallons = _____ quarts
59. 3 kilometers = _____ meters
60. 720 minutes = _____ hours
61. 2 meters = _____ cm
62. 180 inches = _____ yards
63. \$10.75 for 5 cheeseburgers = \$ _____ for one cheeseburger

64. $200 \text{ ft/min} = \underline{\hspace{2cm}} \text{ ft/seconds}$

Section 7: Divisibility Rules, GCF and LCM

Determine whether each number is divisible by 2,3,4,5,6,9, or 10.

Think about your divisibility rules! It will help you to solve these questions

65. 200

66. 134

67. 54

Determine whether each number is prime or composite.

A prime number is only divisible by one and itself. For example, the number 13 can only be divided by 1 and 13.

68. 75

69. 11

70. 112

Write the prime factorization of each number.

A factor tree can be used here! Please write your final answer in exponential form. For example, the prime factorization of $18 = 2 \times 3^2$

71. 150

72. 75

73. 72

74. 45

Find the LCM of each set of numbers.

What is the smallest number that is a multiple of the given number sets? One way to find the answer, is to list all the multiples of each number and find what multiples they have in common.

75. 4 and 6

76. 2,3,4

77. 5 and 6

Find the GCF of each set of numbers.

What is the biggest number that is a factor of the given number sets? Need help? To get started, try listing out the factors of both numbers. Then look to see what factors they have in common.

78. 28 and 84

79. 96 and 56

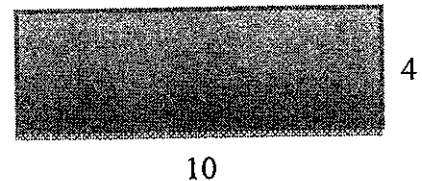
80. 28 and 77

Section 8: Perimeter and Area

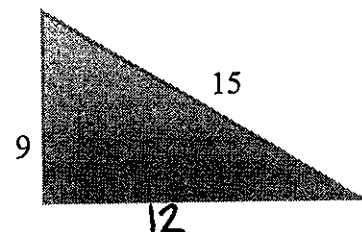
Need help remembering the formulas? Take a look at the formula sheet provided in the beginning of the packet!

81. Find the perimeter of the rectangle.

82. Find the area of the rectangle.



83. Find the perimeter of the right triangle



84. Find the area of a circle with a radius of 5m.

85. Find the circumference of a circle with a diameter of 14 cm.

Section 9: Problem Solving

Answer the following questions. Show all work. Then write a paragraph (at least 5 sentences) explaining how you arrived at your final answer. Be sure to answer all questions fully.

1) On Monday, Bo made a joke and told it to two of his friends. On Tuesday, Bo's two friends told 2 more friends. On Wednesday, these 4 people each told the joke to 2 more friends. If this pattern continues, how many people will know the joke after 5 days?

2) Hakeem, Ted, Roberto, and Fred will all soon wed. They all purchased the same type of tuxedo with the same original price at a discount, but since they bought their tuxedos at different stores, their discounts were different. Hakeem got 30 percent off, Ted got $\frac{2}{5}$ off, Roberto purchased his tuxedo for 0.65 of the original price, and Fred purchased his tuxedo for $\frac{3}{4}$ of the original price.

- a. Write the percent off that each person received.
- b. If the original price of the tuxedo is \$80.00, what is each person's discount?
- c. What is each person's cost for the tuxedo?
- d. Who paid the most?

3) A recipe for cooking a turkey states to allow 20 minutes for each pound of turkey and to add 5 minutes per pound if the turkey is stuffed. The turkey weighs 16 pounds and will be stuffed. To have dinner at 2 o'clock in the afternoon, what time does the turkey need to go in the oven? Allow a half hour for cooling and carving.