Round 3

1) Today is Mar. 15th and this was a leap year. Including today, how many days are we into 2008? Write your answer, without any units, in space #1 of the answer sheet.

2) Let x be the number written in space #1. If the ratio of boys to girls in the 2nd grade is 3 to 1 and there are x boys, how many girls are in the 2nd grade? Write your answer, without any units, in space #2 of the answer sheet.

3) Let x be the number written in space #2. If the area of a square is x square units, what is perimeter of the square? Write your answer, without any units, in space #3 of the answer sheet.

4) Let x be the number written in space #3. What is the greatest common factor of 48 and x? Write your answer in space #4 of the answer sheet.

5) Let x be the number written in space #4. Simplify $\sqrt{\dfrac{x^2+x}{x+1}}$ and write your answer in space #5 on the answer sheet.

6) Let x be the number written in space #5. If a regular polygon has 3x sides, then what is the measure of an interior angle (one formed by two adjacent sides)? Write your answer, without any units, in space #6 on the answer sheet.

Answers: 75 , 25 , 20 , 4 , 2 , 120

Round 2

1) What is the 12th term in the arithmetic sequence 3 , 5 , 7 , 9 , ...? Write your answer in space #1 on the answer sheet.

2) Let x be the number written in space #1. Simplify $\sqrt{400x}$ and write your answer in space #2 of the answer sheet.

3) Let x be the number written in space #2. The length of a rectangle is four times its width. If the area of the rectangle is x, what is the width? Write your answer, without any units, in space #3 of the answer sheet.

4) Let N be the number written in space #3. Solve the following equation for x and write your answer, without the x = , in space #4 of the answer sheet.

$$2x + 61 = 9x + N$$

5) Let x be the number written in space #4. What is the 6th term in the geometric sequence: 16 , x , 4 , … ? Write your answer in space #5 on the answer sheet.

6) Let m be the number written in space #5. If m is the slope between the points (2,3) and (x,4), what is x? Write your answer, without any units, in space #6 on the answer sheet.

Answers: 25 , 100 , 5 , 8 , ½ , 4

Round 1

1) If the number 2,000,000,001 is evenly divisible by 3, then write the number 15 in space #1 on the answer sheet. If it is not evenly divisible by 3, then write the number 20 in space #1 on the answer sheet.

2) Let x be the number written in space #1. If a right triangle has legs of length 20 and x, then what is the length of the hypotenuse? Write your answer, without any units, in space #2 of the answer sheet.

3) Let x be the number written in space #2. If the area of a circle is xπ square units, then what is the DIAMETER of the circle? Write your answer, without any units, in space #3 of the answer sheet.

4) Let X be the number written in space #3. Your current salary is $37,500. If you receive a X% raise, what is your new salary? Write your answer, without any units, in space #4 of the answer sheet.

5) Let x be the number written in space #4. If the perimeter of an equilateral triangle is x units, what is the length of a side of the triangle? Write your answer, without any units, in space #5 of the answer sheet.

6) Let x be the number written in space #5. What is largest prime factor of x? Write your answer in space #6 on the answer sheet.

Answers: 15 , 25 , 10 , 41250 , 13750 , 11

Practice Round

1) If the product of (-3)(4)(-2)(-6)(7) is positive then write 6 in space #1 on the answer sheet. If the answer is negative write 3 in space #1 on the answer sheet.

2) Let x be the number written in space #1. Find the median of the following set of numbers:

      7, 5, 7, 5, x

Write your answer in space #2 of the answer sheet.

3) Let x be the number written in space #2. Given the line y = -3x + 23, find the corresponding y-value for the given x-value.   Write your answer for y, just the number, without "y=", in space #3 of the answer sheet.

4) Let x be the number written in space #3. What is the perimeter of a regular polygon with x sides of length x?   Write your answer, with no units, in space #4 of the answer sheet.

5) Let N be the number written in space #4. Solve the equation $x^6 = N$ for x and write your answer in space #5 on the answer sheet.

6) Let x be the number written in space #5. The length of a rectangle is x times its width. If the perimeter is 48 units, then what is its width? Write your answer, without any units, in space #6 on the answer sheet.

Answers: 3 , 5 , 8 , 64 , 2 , 8