Oklahoma School of Science and Mathematics
Eighth Annual Middle School Mathematics Contest
Round One, Spring 2010

Directions: Write the answer to each question in the box to the right of the question. Units are given in plural form even if the singular form is correct. Use scratch paper provided to do your work. Calculators are allowed, but not necessary. Common fractions should be in simplest form $\left(\dfrac{a}{b}\right)$ not mixed numbers.

NAME: ***Answer Sheet***

SCHOOL: _____

1. Calculate: $\dfrac{1-\dfrac{1}{2}}{2} =$ a. 1 b. $\dfrac{1}{3}$ c. $\dfrac{1}{4}$ d. $\dfrac{1}{2}$ e. $\dfrac{1}{5}$	1. C $\dfrac{1}{4}$
2. Which is the largest number? a. $\dfrac{1}{9}$ b. $\dfrac{1}{10}$ c. $\dfrac{111}{1,000}$ d. 0.11 e. $\dfrac{23}{200}$	2. E $\dfrac{23}{200}$
3. Which of these numbers is odd? a. $1^{2010}+1$ b. 2009^2+2 c. 3^6+3 d. 7^4+7 e. 11^5+13	3. B 2009^2+2
4. Which number is larger: $\dfrac{1}{5^2}$ or $\dfrac{1}{2^5}$?	4. $\dfrac{1}{5^2}$
5. In the triangle below, one angle measures $72°$. What is the sum, of the other two angles? a. 144° b. 72° c. 108° d. 110° e. 288°	5. C 108°
6. Express the reciprocal of $\dfrac{6}{17}$ as a percentage.	6. 283.333%
7. What is the largest prime factor of 240?	7. 5
8. Johnny uses three number cards 1, 2, and 3 to make three digit numbers. The cards are not repeated. How many three digit numbers can Johnny make?	8. 6
9. The sum of consecutive integers is 21, find the middle integer.	9. 7

10. Mary, Julia, and Sam ages total to 26. If Mary and Julia are twin sisters, and Sam's age is 12, what is Mary's age?	10. 7
11. Johnson has 5 nickels, 9 quarters, 8 pennies, and 5 dollars. How much money does he have?	11. $7.58
12. What is the value of $2\frac{1}{4}+3\frac{1}{8}+4\frac{1}{16}-2\frac{3}{16}+1\frac{3}{4}$	12. 9
13. Replace letters with correct digits: $\begin{array}{r} S\,A\,M \\ +\ \ A\,M \\ \hline 2\,6\,8 \end{array}$	13. S=2 or S=1 A=3 A=8 M=4 M=4
14. What is 6.5% of 270?	14. 17.55
15. Several chickens and rabbits are kept in a single cage. People can see there are 32 heads, and 94 feet. How many chickens and rabbits are there?	15. 17 chickens 15 rabbits
16. Sam traveled 20 Km in one day. This represents $\frac{4}{7}$ of his total trip. What is the total length of his trip? (in Km)	16. 35
17. $400+400+400+400+400+400+400+400+400 = 100\times\,?$ a. 32 b. 33 c. 34 d. 35 e. 36	17. E 36
18. There are 6 students who took part in a mathematics contests. They attained 89, 92, 86, 91, 94, 88 respectively, find the average score of the six students.	18. 90
19. Replace letters with correct digits: $MATH + ATH + TH + H = 2010$.	19. M=1 A=4 T=7 H=0
20. Sam entered his room and saw three bags in each corner of the room. On each bag, he saw three cats and each cat had three kittens. How many legs are in the room?	20. 578
21. The sum of the integers between a number and its triple is 380. What is the number? **Tie Breaker #1**	21. 10
22. How many integers satisfy $|2x-5|<9$? **Tie Breaker #2**	22. 8