

TMC 2006 MATH – BOWL

Round 10 Question	Answers
1. What is the difference between the area and the length of the diagonal of a square with side lengths $\sqrt{2}$?	0
2. What is the logarithm, base 8 of 64?	2
3. A circle is inscribed inside a square with side length 8. What is the area outside the circle but inside the square?	$64 - 16\pi$
4. Anne’s Pretzels advertises “Buy three pretzels and get the fourth pretzel free”. What is the percent savings when this price is compared to the full price of four pretzels?	25 (or 25%)
5. What is the maximal number of Thursdays in one leap year?	53
6. What is the greatest integer x for which $\frac{7}{8} > \frac{x}{9}$?	7
7. By how much does the arithmetic mean exceed the geometric mean of 4 and 9 ?	$\frac{1}{2}$
8. The standard deviation of a set of sample points is a measure of variation of scores about the _____.	mean
9. The sum of the reciprocals of the roots of the equation $6x^2 + x - 15 = 0$ is:	$\frac{1}{15}$
10. The reciprocal of the sum of the roots of the equation $6x^2 + x - 15 = 0$ is:	-6

Tie Breakers

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| 1. How many cubic centimeters are there in a cubic meter? | 1 million |
| 1. A right triangle has hypotenuse of length 13 and one leg of length 5. What is the length of the other leg? | 12 |