

TMC 2006 MATH – BOWL

Round 9	Questions	Answers
1.	If two non-perpendicular lines intersect, what is the sum of the obtuse and acute angles formed by this intersection?	180
2.	What is the remainder when $x^3 - 1$ is divided by $x + 2$?	-9
3.	If $f(x) = x^4$ and $g(x) = \sqrt{x}$ then what is f composition g of x ?	x^2
4.	If the point $(7, 3)$ is reflected across the line $y = -x$, what are the coordinates of the image point?	$(-3, -7)$
5.	A leg of an isosceles right triangle is π . What is the length of the hypotenuse?	$\pi\sqrt{2}$
6.	What is the larger angle in degrees between the hands of a clock at 7 o'clock?	210
7.	How many subsets of the set consisting of the numbers 1,2,3 contain exactly an odd number of elements?	4
8.	Approximately what percent of scores fall within 1 standard deviation of the mean of a standard normal distribution of scores?	68 or 68%
9.	A merchant sold a lamp for \$18 making a 50% profit. How much did the merchant pay for the lamp?	12 or \$12.
10.	What is the 5 th term of the geometric sequence 8, 4, 2, ...	$\frac{1}{2}$

Tie Breakers

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| 1. | What is the quotient of $x^2 - 4x - 12$ divided by $x + 2$? | $x - 6$ |
| 2. | How many prime numbers are there between 50 and 80? | 7 |