

## TMC – 2006 – MATH BOWL

Emergency Questions	Answers
1. What is the remainder when 1021 is divided by 6?	1
2. All the angles of an equilateral triangle have measure _____ radians?	$\frac{\pi}{3}$
3. Which Platonic solid has fewer faces, a cube or a tetrahedron?	tetrahedron
4. The only Platonic solid with pentagonal faces is the _____?	dodecahedron
5. State the factors of the expression $x^3 - xy^2$ .	$x, x + y, x - y$
6. The statement, “It is impossible for a cube to be the sum of two cubes, a fourth power to be the sum of two fourth powers, or in general for any number that is a power greater than the second to be the sum of two like powers” is known as what theorem?	Fermat’s Last Theorem
7. Give the first 10 numbers of the Fibonacci sequence.	1 1 2 3 5 8 13 21 34 55
8. The nth Fibonacci number divided by the n-1 Fibonacci number is also known as the Golden Ratio. What is its actual value?	$\frac{1+\sqrt{5}}{2}$
9. Find the prime factorization of 1386.	$2 \times 3 \times 3 \times 7 \times 11$
10. Order the fractions $\frac{23}{11}, \frac{19}{9}, \frac{10}{12}, \frac{21}{10}$ from least to greatest.	$\frac{10}{12}, \frac{23}{11}, \frac{21}{10}, \frac{19}{9}$