SAMPLE MATH BOWL QUESTIONS

1. What is the slope of the line $2y = 3x + 4$ ANS: 3/2

2. What is the vertical asymptote of y equals three over
   the quantity x minus 5?

                                                                   ANS: $x = 5$

3. What is the fifth term of the arithmetic sequence whose
   first term is -5 and whose second term is -3.5?   ANS: 1

4. If an automobile company increases the mileage of its
   economy model from 30 miles per gallon to 40 miles per
   gallon, how much less gasoline is used in a 600 miles trip?   ANS: 5

5. Find the major vertices of the ellipse represented by the
   equation $9x^2 + 4y^2 = 36$

                                                                   ANS: (0,3) (0, -3)

6. What number appears in the one's place when 369 is
   raised to the 34th power?

                                                                   ANS: 1

7. For what value of x does log to the base x of 64 equal 3? ANS: 4

8. $1000 is invested in a security which increases in value
   at a rate of 20 percent per year. What is the value of
   the security in 2 years?

                                                                   ANS: $1440

9. What is the smallest positive value of x for which cosine
   of the quantity $x + \pi/2$ equals one?

                                                                   ANS: $3\pi/2$

10. If each interior angle of a regular polygon is 162 degrees,
    then how many sides does the polygon have?   ANS: 20