

PRINT Your Name: _____

Quiz 9 — March 21, 2014 – Section 8 – 10:50 – 11:40

Remove everything from your desk except this page and a pencil or pen.

The solution will be posted soon after the quiz is given.

Circle your answer. **Show your work. Your work must be correct and coherent.**

The quiz is worth 5 points.

Express the number $3.\overline{417} = 3.417417417\dots$ as a ratio of two integers. Explain what you are doing. Your work must be correct and meaningful.

Answer: Let $b = 3.\overline{417} = 3.417417417\dots$. Notice that $1000b = 3417.417417\dots$. So,

$$999b = 1000b - b = 3417.417417\dots - 3.417417417\dots = 3414.$$

We conclude that $b = \boxed{\frac{3414}{999}}$.