

Each WA is worth 10 points. Work right on these pages, then scan and upload or give to me in print. You can work together or see a tutor, but NEVER copy. This WA is for a grade, so dishonesty or cutting corners may earn a 0 for all involved.

1. [3 pts] Some appearances of decimal numbers correspond to also being rational numbers. Name each appearance that is also rational, give an example of a decimal number with that appearance, AND also show your decimal number being converted to meet the definition of *rational number*.

2. [3 pts] Among the numbers below, put a BOX around the largest, UNDERLINE the smallest, and CIRCLE the second smallest. Show work as needed.

2.28

2.282282228...

$2\frac{28}{99}$

$2.\overline{28}$

$\sqrt{5.235}$

2.208

3. (a) [1 pt] State the definition of *denseness* in clear, mathematically correct language.

(b) [1 pt] Find a rational number between 0.74 and  $0.747747774\dots$ , sizewise. If not possible, say so. Clearly indicate your final answer.

(c) [1 pt] Find an irrational number between 0.74 and  $0.747747774\dots$ , sizewise. If not possible, say so. Clearly indicate your final answer.

4. [1 pt] Give a clear, complete definition of the term *rational number*.