Math 200 - Quiz 9

November 7, 2012

Name __key__

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (1 point) Carefully explain why $0 \div 0$ is not defined.

$0 \div 0 = k$ IF AND ONLY IF k IS THE UNIQUE

NUMBER SUCH THAT $k(0) = 0$.

k CAN BE ANY NUMBER.

BECAUSE THERE IS NOT A UNIQUE SUCH NUMBER, THE DIVISION IS NOT DEFINED.

2. (2 points) Use a **different** technique to estimate each sum.

(a) $6512 + 5987 + 6124 + 5478 + 5999$

CLUSTERING ... EACH IS CLOSE TO 6000

$6000 \times 5 = \boxed{30,000}$

(b) $276 + 142$

ROUNDING ...

$300 + 100 = \boxed{400}$

3. (2 points) Use any multiplication algorithm to compute $425_{six} \times 342_{six}$.

$\rightarrow 243\ 514_{six}$