

NAME:

MATH 321 ... EXAM 2 EXTRA CREDIT

Do two of the three proofs for 10 points extra credit.

1) Prove: If  $f$  and  $g$  are one-to-one, then  $f \circ g$  is also one-to-one.

2) Prove that  $\mathbb{Q}$  is countable.

3) Prove that  $\mathbb{R}$  is uncountable.