Math 153-Quiz 5
September 29, 2016

Name $\qquad$
Score $\qquad$

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

1. ( 5 points) Refer to the ammonium ion concentration data on the back of the page.
(a) At what percentile is the concentration 3.0?
(b) What concentration is at the 90th percentile?
(c) What concentration is at the 65 th percentile?
2. (5 points) Julio scored 180 on a math test with mean 157.9 and standard deviation 27.3. Mary scored 43 on a physics test with mean 38.1 and standard deviation 6.2.
(a) Compute the corresponding $z$ scores. Who scored better?
(b) Compute the coefficients of variation for the tests. Which tests (math or physics) had greater variation?
(c) What would be an unusally high score on the math test?

Concentration of Ammonium lons in 50 Samples
(In Percentages)

| 1.4 | 2.3 | 2.4 | 2.6 | 2.6 | 2.7 | 2.7 | 2.8 | 2.8 | 2.9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2.9 | 2.9 | 3.0 | 3.1 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.5 |
| 3.6 | 3.7 | 3.7 | 3.9 | 3.9 | 4.0 | 4.0 | 4.1 | 4.1 | 4.2 |
| 4.2 | 4.2 | 4.4 | 4.5 | 4.6 | 4.6 | 4.6 | 4.7 | 4.8 | 4.8 |
| 4.8 | 4.9 | 5.2 | 5.2 | 5.5 | 5.6 | 5.7 | 6.5 | 7.0 | 13.3 |

