$\begin{array}{c} {\rm Stat} \ 101 \\ {\rm Worksheet \ on \ z\text{-}scores} \end{array}$

SAT verbal scores are known to have a mean of 500 points and a standard deviation of 100 points. ACT scores are known to have a mean of 21 points and a standard deviation of 5 points.

| 1. | You took the SAT verbal test and received a score of 550 points. Your friend took the ACT and received a score of 30 points. Which one of you scored better on their respective test, you or your friend? |
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| 2. | What would your score have needed to be on the SAT in order to have the same respective score as your friend had on the ACT? |
| 3. | What would your friend's score have needed to be on the ACT in order to have the same respective score as you had on the SAT? |