

**For full credit you must show your work. Partial credit may be given for incorrect solutions if sufficient work is shown.**

**Each part is worth 2.5 points.**

1. A normal distribution has  $\mu = 100$  and  $Q_3 = 110.125$ . Find  $\sigma$  and  $Q_1$ .
  
  
  
  
  
  
  
  
  
  
2. SAT scores are normally distributed with  $\mu = 1060$  and  $\sigma = 195$ . ACT scores are normally distributed with  $\mu = 20.8$  and  $\sigma = 4.8$ .
  - (a) A college only accepts students that scored at least 1255 on the SAT. What percentile does a score of 1255 correspond to?
  
  
  
  
  
  
  
  
  
  
  - (b) What is the interquartile range of ACT scores?
  
  
  
  
  
  
  
  
  
  
  - (c) Alice scored 1450 on the SAT. Her friend Bob took the ACT and scored 34. Who did better?