

AP Statistics _____ is approximately Normal

There are two major tests of readiness for college, the ACT and the SAT. ACT scores are reported on a scale from 1 to 36. The distribution of ACT scores in recent years has been roughly Normal with mean $\mu = 20.9$ and standard deviation $\sigma = 4.8$. SAT scores are reported on a scale from 600 to 2400. The distribution of SAT scores in 2013 was roughly Normal with mean $\mu = 1499$ and standard deviation $\sigma = 319$. The following exercises are based on this information.

1. Jose scores 1770 on the SAT. Assuming that both tests measure the same thing, what score on the ACT is equivalent to Jose's SAT score? Explain.

2. Reports on a student's ACT or SAT usually give the percentile as well as the actual score. Tonya scores 1320 on the SAT. What is her percentile? Show your method.

3. The quartiles of any distribution are the values with cumulative proportions 0.25 and 0.75. What are the quartiles of the distribution of ACT scores? Show your method.