UNIVERSITY OF TEXAS AT AUSTIN

Quiz # 7
The normal distribution. $z-$scores.

Provide your **final answers only** to the following questions.

Problem 7.1. When a variable follows a normal distribution, what percent of observations are contained within 1.75 standard deviations of the mean?
  (a) 68.26%
  (b) 91.98%
  (c) 95.99%
  (d) Not enough information is given.
  (e) None of the above.

Problem 7.2. Which of the following statements about z-scores is/are <u>true</u>?
  (a) Larger z-scores are always better.
  (b) The z-score for an observation that is equal to the mean is 1.
  (c) If a z-score is 2 that means that the observation is two times the value of the mean.
  (d) If a z-score is negative that means that the observation is less than mean.
  (e) None of the above are true.

Problem 7.3. Heights of boys in a high school are approximately normally distributed with mean of 175 cm standard deviation of 5 cm. What is the 20th percentile of heights?
  (a) 165.88 cm
  (b) 171.71 cm
  (c) 173.32 cm
  (d) 181.01 cm
  (e) None of the above.