Quiz 2.2A AP Statistics Name:

1. A study of elite distance runners found a mean body weight of 63.1 kilograms (kg), with a standard deviation of 4.8 kg.
   (a) Assuming that the distribution of weights is Normal, make an accurate sketch of the weight distribution with the horizontal axis marked in kilograms.

   (b) Use the 68–95–99.7 rule to find the proportion of runners whose body weight is between 48.7 and 67.9 kg. Show your method.

   (c) Calculate and interpret the 45th percentile of the runners' body weight distribution.

2. Use Table A to find the proportion of observations from a standard Normal distribution that satisfies $-1.51 < Z < 0.84$. Sketch the Normal curve and shade the area under the curve that is the answer to the question.

3. Give an example of a quantitative variable that does *not* have a Normal distribution. Justify your answer.