Quiz on z-Scores and Probabilities

1. The following scores were obtained as part of a sample with mean 10 and standard deviation 2. For each score, find the appropriate z-score:

   a) X = 14: z =

   b) X = 8: z =

2. Use the table in the appendix, page 592 of the book, to find the given probabilities. *Note: the numbers in the table might not give you the probabilities directly. You might need to draw a suitable picture.*

   a) $P(z > 2.0)$

   b) $P(z < 1)$

3. Each score listed below comes from a sample with the indicated mean and standard deviation. Convert each one to a z-score and find the indicated probability:

   a) X has mean 5, standard deviation 4. Find $P(x > 8)$

   b) X has mean 3, standard deviation 2. Find $P(1.2 < x < 4.5)$

   c) X has mean 75, standard deviation 12. Find $P(80 < x < 100)$