

Math 160 Professor Busken  
Chapter 6 Worksheet

Name: \_\_\_\_\_

Use Table A-2 to answer the following questions.

1. Find the probability  $P(z < 2.37)$ .
2. Find the area between  $z = -1.51$  and  $z = 2.37$ .
3. Find the probability  $P(z > 2.37)$ .
4. Find the  $z$ -score associated with a probability value of 0.8461.
5. Find  $z_\alpha$  if  $\alpha = 0.05$ .
6. Find the  $z$ -score associated with  $P_{90}$ , the 90<sup>th</sup> percentile.
7. Find the probability  $P(-1.2 < z < 0.18)$ .
8. Find the probability  $P(z > -0.12)$ .
9. Find  $z_\alpha$  if  $\alpha = 0.15$ .

10. The amount of coffee dispensed by a drink vending machine is normally distributed with a mean of 12.0 oz and a standard deviation of .44 oz. What is the probability that a randomly selected cup of coffee has more than 12.5 oz.?
11. The scores on a math placement exam are normally distributed with a mean of 120.6 points and a standard deviation of 15.5 points. If a student is chosen at random to take this test, what is the probability that he will score between 98.0 points and 130.0 points?
12. Assume that  $x$  has a normal distribution, and find the indicated probability. The mean is  $\mu = 15.2$  and the standard deviation is  $\sigma = 0.9$ . Find the probability that  $x$  is greater than 16.1.