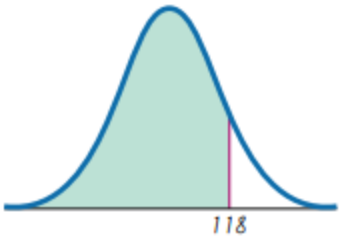
3. Normal Distributions What is the difference between a standard normal distribution and a nonstandard normal distribution?

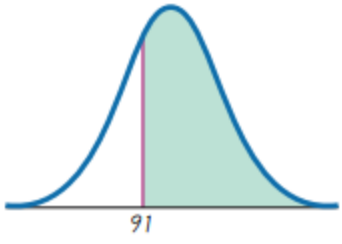
4. Random Digits Computers are commonly used to randomly generate digits of telephone numbers to be called when conducting a survey. Can the methods of this section be used to find the probability that when one digit is randomly generated, it is less than 3? Why or why not? What is the probability of getting a digit less than 3?

IQ Scores. ***In Exercises 5–8, find the area of the shaded region. The graphs depict IQ scores of adults, and those scores are normally distributed with a mean of 100 and a standard deviation of 15 (as on the Wechsler test).***

5.



6.



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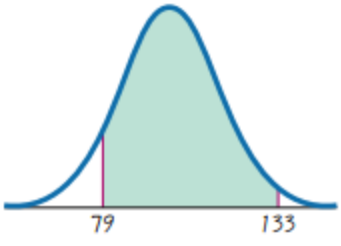
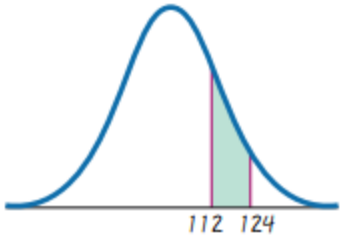
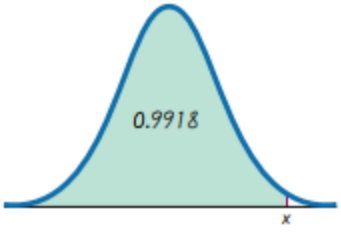


8.

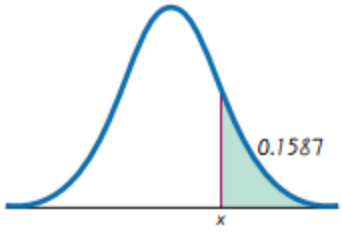


IQ Scores. ***In Exercises 9–12, find the indicated IQ score, and round to the nearest whole number. The graphs depict IQ scores of adults, and those scores are normally distributed with a mean of 100 and a standard deviation of 15 (as on the Wechsler test).***

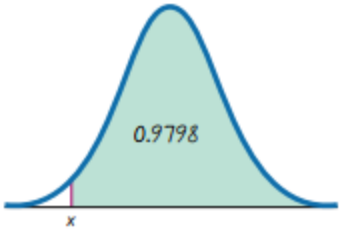
9.



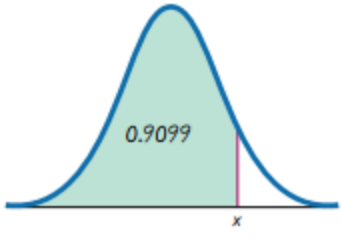
10.



11.



12.



IQ Scores. ***In Exercises 13–20, assume that adults have IQ scores that are normally distributed with a mean of 100 and a standard deviation of 15 (as on the Wechsler test). For a randomly selected adult, find the indicated probability or IQ score. Round IQ scores to the nearest whole number. (Hint: Draw a graph in each case.)***

13. Find the probability of an IQ less than 85.

14. Find the probability of an IQ greater than 70 (the requirement for being a statistics textbook author).