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PROBLEM

VP of the Standard Insurance Company, has developed a new training program that is entirely self-paced. New employees work various stages at their own pace; completion occurs when the material is learned. Howell's program has been especially effective in speeding up the training process. Because the program is self-administered, employees require different numbers of hours to complete the program. A study of past participants indicates that the mean length of time spent on the program is **500** hours and that this normally distributed random variable has a standard deviation of **100** hours.

1. What is the probability that a participant selected at random will require more than 500 hours to complete the program?
2. What is the probability that a candidate selected at random will take between 500 and 650 hours to complete the training program?
3. What is the probability that a candidate selected at random will take more than 700 hours to complete the program?
4. Suppose the training-program director wants to know the probability that a participant chosen at random would require between 550 and 650 hours to complete the required work.
5. What is the probability that a candidate selected at random will require fewer than 580 hours to complete the program?
6. What is the probability that a candidate chosen at random will take between 420 and 570 hours to complete the program?