

## 6.2 Transforming Random Variables

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November 29, 2021

The screenshot shows a Blackboard quiz interface. At the top, the course path is 'Statistics AP-Thompson-Year-12462 (66479) > Activities and Due Dates > 6.2 Transforming random variables'. The user is Michael Brodskiy. The quiz title is '6.2 Transforming random variables'. The 'Assignment Score' is 98.8%. The quiz consists of 17 questions. Questions 1 through 8 are marked as 'Correct' with a score of 100%. Question 9 is marked as 'Solved' with a score of 99%. The current question is 'Question 1 of 17'. The question text is: 'The time  $X$  it takes Hattan to drive to work on a randomly selected day follows a distribution that is approximately Normal with mean 15 minutes and standard deviation 6.5 minutes. Once he parks his car in his reserved space, it takes 5 more minutes for him to walk to his office. Let  $T$  = the total time it takes Hattan to reach his office on a randomly selected day, so  $T = X + 5$ . Which of the following gives the correct shape, center, and variability of the probability distribution of  $T$ ?' The options are: 

- ☐ Shape: Approximately Normal, Center: 15 minutes, Variability: 5 minutes.
- ☒ Shape: Approximately Normal, Center: 20 minutes, Variability: 6.5 minutes.
- ☐ Shape: Approximately Normal, Center: 15 minutes, Variability: 6.5 minutes.
- ☐ Shape: Approximately Normal, Center: 15 minutes, Variability: 11.5 minutes.
- ☐ Shape: Approximately Normal, Center: 20 minutes, Variability: 11.5 minutes.