

1-1. A car travels along a straight road at 10 m/s, then it accelerates with $a \sim N(5, 0.5^2)$ m/s². After the car has traveled for 4 seconds, determine the distributions of the velocity and distance that the car traveled.

Solution: $v \sim N(30, 2^2)$ m/s, $s \sim N(80, 4^2)$ m