8. (3 points each) Sarah decided to run a marathon. However, she started off way too fast and so her speed decreased throughout the race. Below is a table showing how many miles she had run at time t minutes since the beginning of the race.

time (min)	30	60	90	120	150	180	210	240
distance (miles)	5	9	12.5	15.5	18.5	21	23.25	25.2

Let s be the function such that $s(t)$ is Sarah's distance from the starting line t minutes after the race began.

(a) What is the practical interpretation of $s'(120)$ in the context of this problem?

(b) Estimate $s'(120)$.

(c) What is the practical interpretation of $s^{-1}(14)$ in the context of this problem?

(d) Estimate $s^{-1}(14)$.

(e) What does the derivative of $s^{-1}(P)$ at $P = 14$ represent in the context of this problem?

(f) Estimate the derivative of $s^{-1}(P)$ at $P = 14$.