

Provide a clear and organized presentation. Show all of your work and completely simplify your answer.

Evaluate $\int \bar{r}(t) dt$ if $\bar{r}(t) = \left\langle \frac{t}{2t + \sqrt{t-11}}, \frac{t}{t + \sqrt{t^2 + 11}}, \frac{11t^2 + 8t + 17}{3t^3 + 13t^2 + 31t + 9} \right\rangle$