Problem 1. Define a **discouraged worker** and a **marginally attached** worker.

Problem 2. For a country with the following data,

$$\begin{aligned} \text{Civilian Population}: &\quad 125,000, \\ \text{Employed}: &\quad 95,000, \\ \text{Unemployed}: &\quad 5,000, \\ \text{Discouraged}: &\quad 18,750, \\ \text{Marginally Attached}: &\quad 20,000, \\ \text{Part-Time}: &\quad 3,000, \end{aligned}$$

find the official unemployment rate.

Problem 3. For a country with the following data,

$$\begin{aligned} \text{Civilian Population}: &\quad 125,000, \\ \text{Employed}: &\quad 95,000, \\ \text{Unemployed}: &\quad 5,000, \\ \text{Discouraged}: &\quad 18,750, \\ \text{Marginally Attached}: &\quad 20,000, \\ \text{Part-Time}: &\quad 3,000, \end{aligned}$$

find the unemployment rate that includes part-time workers.

Problem 4. For a country with the following data,

$$\begin{aligned} \text{Civilian Population}: &\quad 125,000, \\ \text{Employed}: &\quad 95,000, \\ \text{Unemployed}: &\quad 5,000, \\ \text{Discouraged}: &\quad 18,750, \\ \text{Marginally Attached}: &\quad 20,000, \\ \text{Part-Time}: &\quad 3,000, \end{aligned}$$

find the unemployment rate that includes discouraged workers.

Problem 5. For a country with the following data,

$$\begin{aligned} \text{Civilian Population}: &\quad 125,000, \\ \text{Employed}: &\quad 95,000, \\ \text{Unemployed}: &\quad 5,000, \\ \text{Discouraged}: &\quad 18,750, \\ \text{Marginally Attached}: &\quad 20,000, \\ \text{Part-Time}: &\quad 3,000, \end{aligned}$$

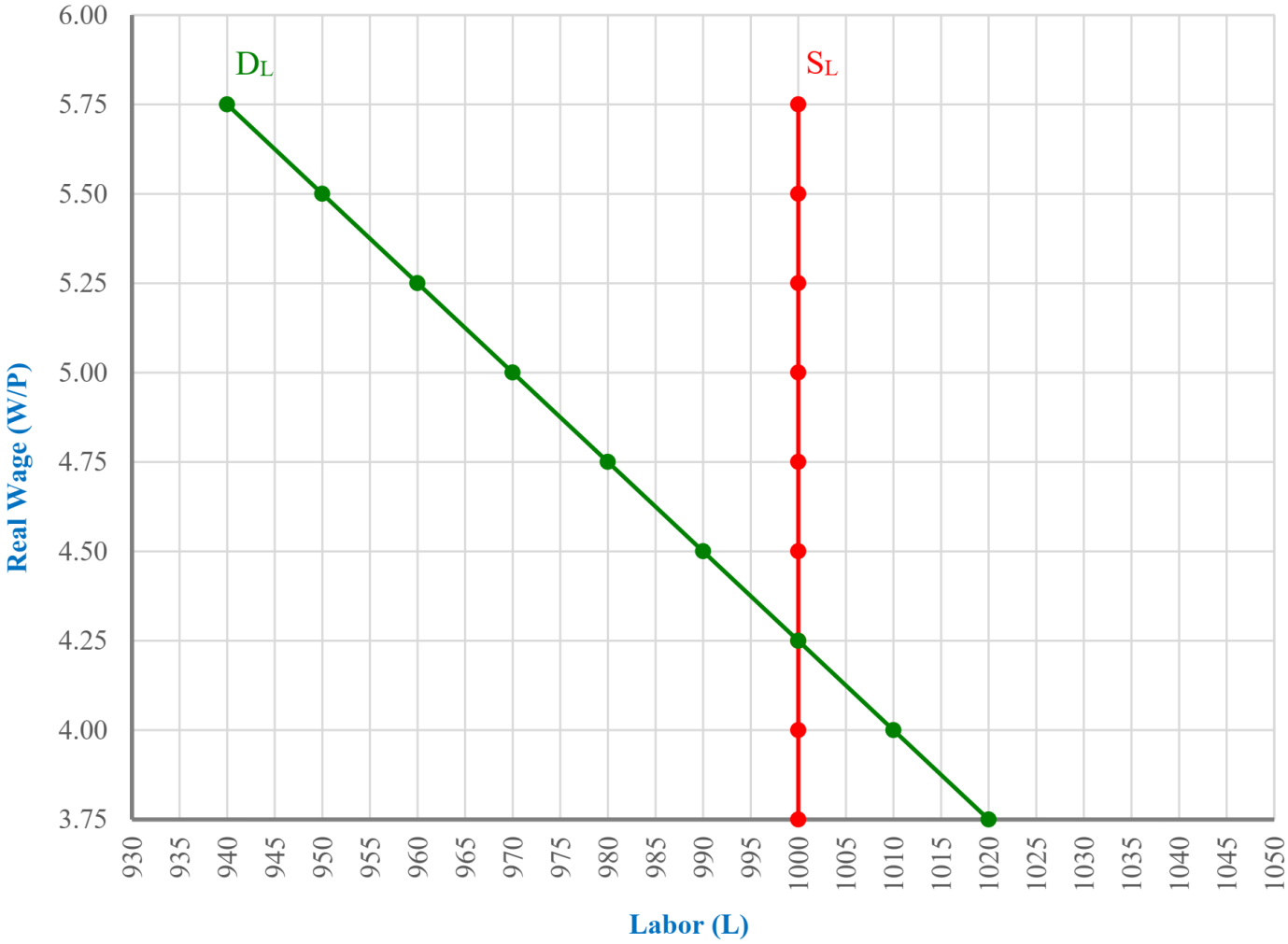
find the unemployment rate that includes marginally attached workers.

Problem 6. For a country with the following data,

$$\begin{aligned} \text{Civilian Population}: &\quad 125,000, \\ \text{Employed}: &\quad 95,000, \\ \text{Unemployed}: &\quad 5,000, \\ \text{Discouraged}: &\quad 18,750, \\ \text{Marginally Attached}: &\quad 20,000, \\ \text{Part-Time}: &\quad 3,000, \end{aligned}$$

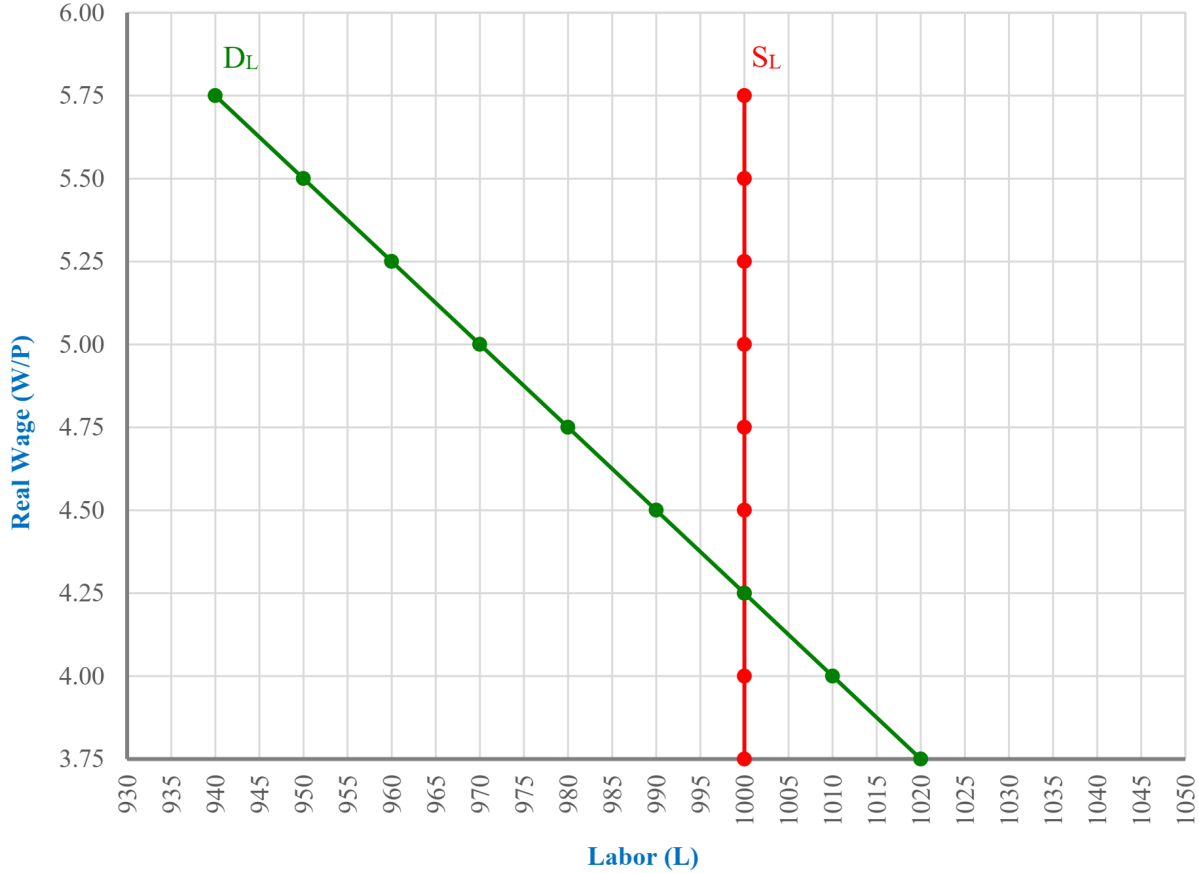
find the unemployment rate that includes marginally attached and part-time workers.

Problem 7. $u_f = 2\%$, $u_s = 0\%$, Okun's $\alpha = 2$, and potential GDP = 125,000.



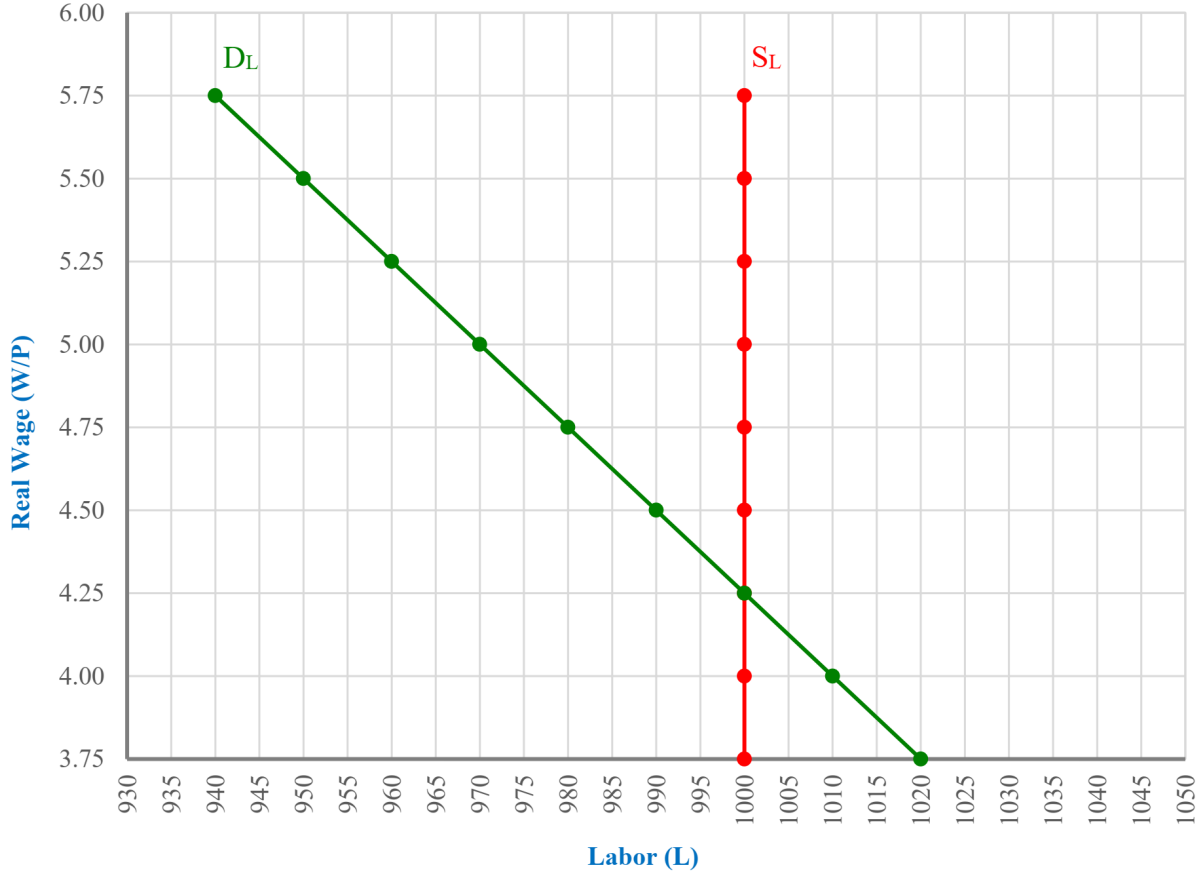
$W =$ \$425 and $P =$ \$100. This must mean that in this country the cyclical rate of unemployment equals _____ percent and real GDP equals _____ units.

Problem 8. $u_f = 2\%$, $u_s = 0\%$, Okun's $\alpha = 2$, and potential GDP = 125,000.



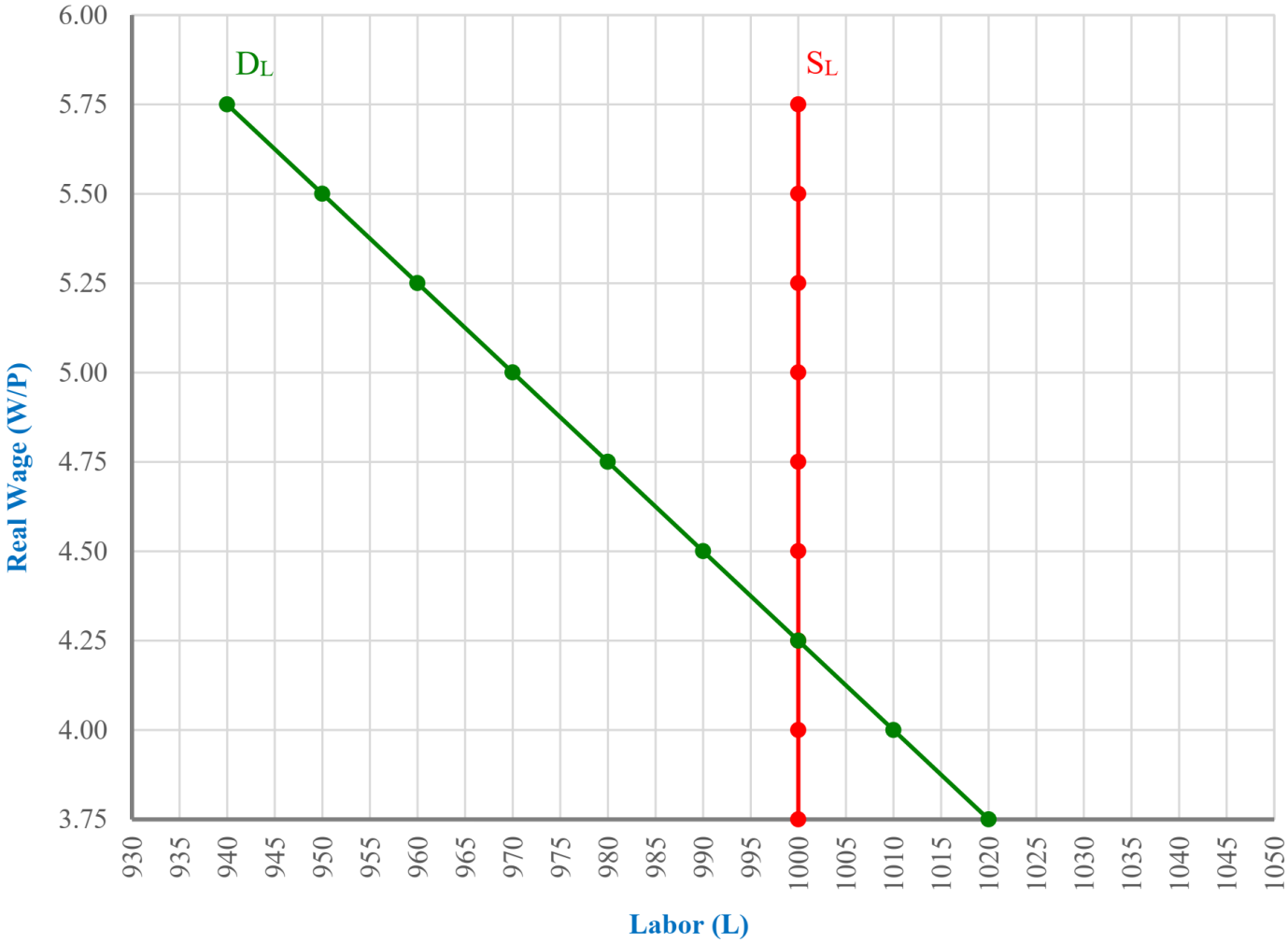
Originally, $W = \$425$ and $P = \$100$. The stock market crashes and people buy fewer goods and services. This causes the nominal wage to fall by 8% and the price level to fall by 32%. This must mean that in this country the cyclical rate of unemployment equals _____ percent and the real GDP equals _____ units.

Problem 9. $u_f = 2\%$, $u_s = 0\%$, Okun's $\alpha = 2$, and potential GDP = 125,000.



Originally, $W = \$425$ and $P = \$100$. The stock market rallies and people buy more goods and service. This causes the nominal wage to increase by 28% and the price level to increase by 36%. This must mean that the cyclical rate of unemployment equals _____ percent and the real GDP equals _____ units.

Problem 10. $u_f = 2\%$, $u_s = 3\%$, Okun's $\alpha = 2$, and potential GDP = 100,000.



$W =$ \$500 and $P =$ \$100. This must mean that in this country the cyclical rate of unemployment equals _____ percent and real GDP equals _____ units.