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נפתח כל מחובר ע"פ ההדרכה

$$\frac{1}{a_1-a_2}\cdot\left(\frac{1}{a_2}-\frac{1}{a_1}\right)+\frac{1}{a_2-a_3}\left(\frac{1}{a_3}-\frac{1}{a_2}\right)+\frac{1}{a_3-a_4}+\left(\frac{1}{a_4}-\frac{1}{a_3}\right)+\dots$$

$$+\frac{1}{a_{n-1}-a_n}\left(\frac{1}{a_n}-\frac{1}{a_{n-1}}\right)=-\frac{1}{d}\left(\frac{1}{a_2}-\frac{1}{a_1}\right)-\frac{1}{d}\left(\frac{1}{a_3}-\frac{1}{a_2}\right)-$$

$$\frac{1}{d}\left(\frac{1}{a_4}-\frac{1}{a_3}\right)-\dots-\frac{1}{d}\left(\frac{1}{a_n}-\frac{1}{a_{n-1}}\right)=$$

$$-\frac{1}{d}\left(\cancel{\frac{1}{a_2}}-\frac{1}{a_1}+\cancel{\frac{1}{a_3}}-\cancel{\frac{1}{a_2}}+\cancel{\frac{1}{a_4}}-\cancel{\frac{1}{a_3}}+\dots+\frac{1}{a_n}-\cancel{\frac{1}{a_{n-1}}}\right)=$$

$$-\frac{1}{d}\left(\frac{1}{a_n}-\frac{1}{a_1}\right)=-\frac{1}{d}\left(\frac{a_1-a_n}{a_na_1}\right)=$$

$$-\frac{1}{d}\left(\frac{a_1-a_1-d(n-1)}{a_na_1}\right)=\cancel{-\frac{1}{d}}\cdot\frac{\cancel{-d}(n-1)}{a_na_1}=\frac{n-1}{a_na_1}$$