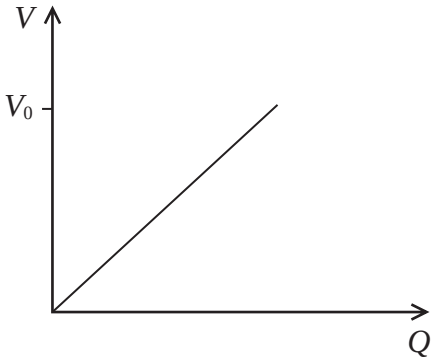
9 A capacitor is connected to a power supply and charged to a potential difference V_0.

The graph shows how the potential difference V across the capacitor varies with the charge Q on the capacitor.



At a potential difference V_0 a small charge ΔQ is added to the capacitor. This results in a small increase in potential difference ΔV across the capacitor.

Which of the following gives the approximate increase in energy stored on the capacitor due to this extra charge?

☒ **A** $\Delta V \times \Delta Q$

☒ **B** $\frac{\Delta V \times \Delta Q}{2}$

☒ **C** $V_0 \times \Delta Q$

☒ **D** $\frac{V_0 \times \Delta Q}{2}$

(Total for Question 9 = 1 mark)