

Question 29**(9 marks)**

Addition and condensation polymers are used in industry to produce a vast range of plastics.

Select **one** addition polymer you have studied and use it to complete parts (a) to (c).

- (a) Draw and name the structure of the monomer used to produce this polymer. (2 marks)



Name: _____

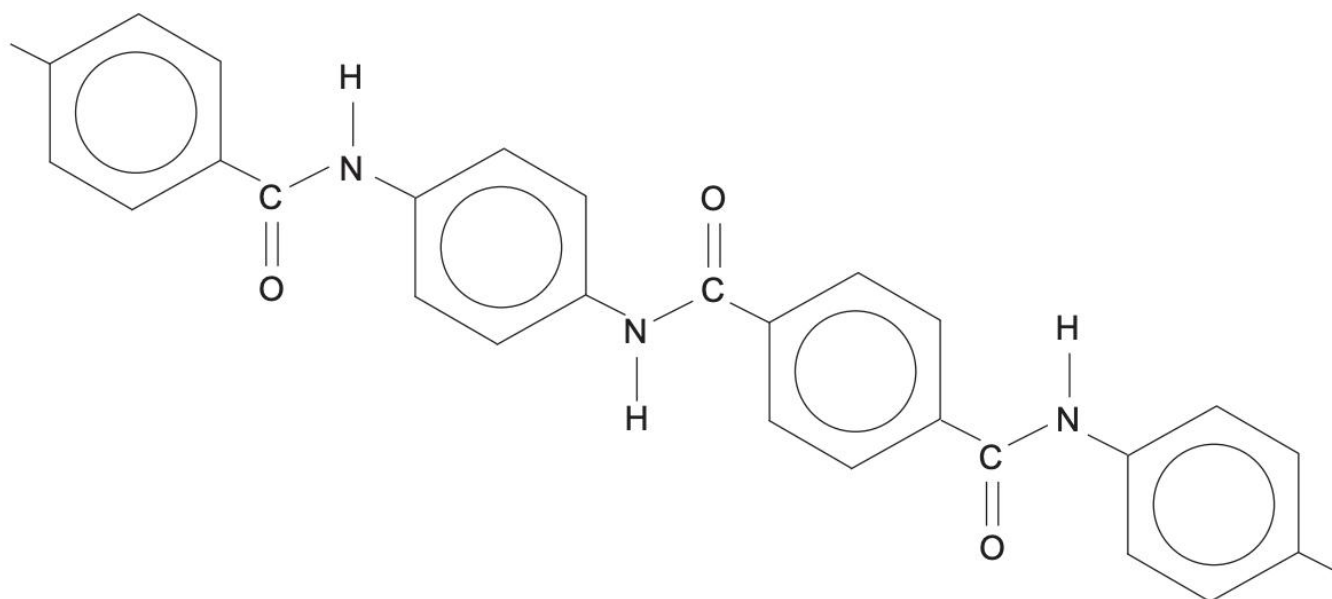
- (b) Draw and name the polymer, including at least **three** repeating units. (2 marks)



Name: _____

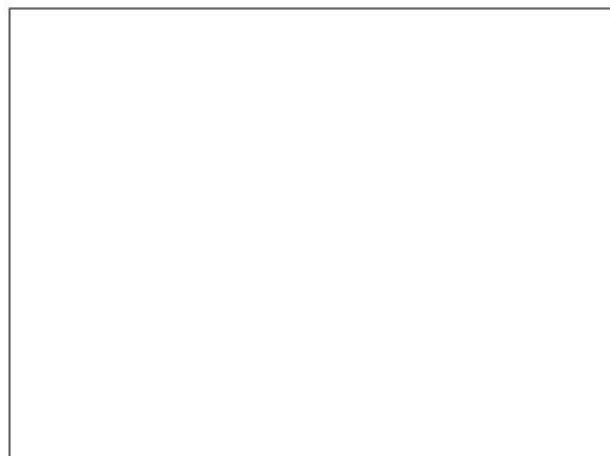
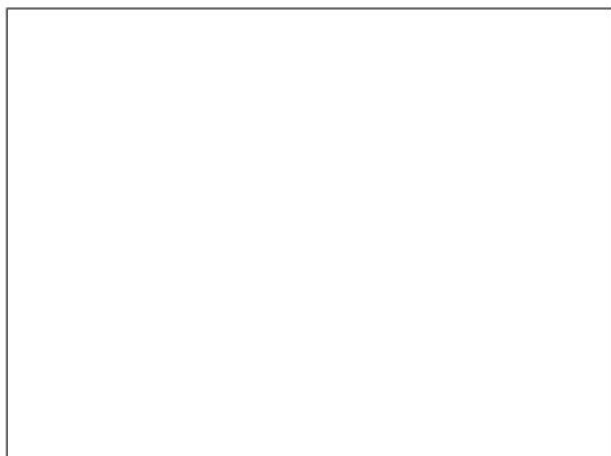
- (c) State **one** use for this polymer, making reference to its relevant property/ies. (2 marks)

Kevlar is a condensation polymer utilised for its high strength. A section of the Kevlar polymer is drawn below.



(d) Draw the **two** monomers from which Kevlar is derived.

(2 marks)



Kevlar's high strength can be attributed in part to the hydrogen bonding that occurs between neighbouring chains. This is similar to a secondary structure of proteins.

(e) To what secondary structure of proteins does this refer? (1 mark)
