

Solutions

Each answer shows the steps, then the **result**.

2.1

- water

2.2

- an amide link / peptide bond

3.1 C

- A polyamide forms from a diamine and a dicarboxylic acid (or a diacyl chloride)

3.2 B

- Hydrolysing a polyester recovers the diol and the dicarboxylic acid

3.3

(a)

- the diol $\text{HO}-\text{CH}_2\text{CH}_2-\text{OH}$ (ethane-1,2-diol) and the diacid $\text{HOOC}-\text{C}_6\text{H}_4-\text{COOH}$ (benzene-1,4-dicarboxylic acid)

(b)

- water

3.4

- with two reactive groups, a monomer can bond at **both** ends; so the chain can keep growing in both directions to form a long polymer — with only one group it would stop after one link