AQA AS/A-level Year 1 Chemistry exam practice answers

**13 Alcohols**

**1 (a)** 1: aqueous solution, yeast [1]; temperature around 35°C, anaerobic conditions [1]

 2: concentrated sulfuric acid [1]; heat [1]

 3: high pressure, high temperature, catalyst — all three points [2]

 **(b)** Fermentation [1]; dehydration/elimination [1]; addition polymerisation [1] respectively

 **(c)**

 **** [1]

**2 (a)** 2-methylbutanal [1]

 **(b)**

 **** [1]

 **(c)** Potassium dichromate(vi) and dilute sulfuric acid [1]

**3 (a)** A silver mirror would form [1]

 **(b)**

 **** [1]

**4 (a)**

 [1]

 **(b)**

 [1]

 **(c)** *Stage 1:* consider the groups joined to the right-hand carbon of the C=C bond

 Consider the atomic number of the atoms attached [1]

 C has a higher atomic number than H, so CH2OH takes priority [1]

 *Stage 2:* consider the groups joined to the left-hand carbon of the C=C bond

 Both groups contain C atoms, so consider atoms one bond further away [1]

C, from ethyl group, has higher atomic number than H, from methyl group, so ethyl takes priority [1]

 *Stage 3:* conclusion

 The highest priority groups, ethyl and CH2OH, are on same side of the C=C bond so the isomer is Z [1]

 The rest of the IUPAC name is 3-methylpent-2-en-1-ol [1]