Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

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

2.1

claim: AI uses a lot of energy and water, and governments must force companies to publish its full cost; perspective shown by, e.g. “burns energy”, “promise”, “must force”

2.2

$25\,000 \times 0.012 =$ **300** TWh; 300 TWh is about as much as a medium-sized country uses in a year; the share may grow quickly with AI, and data centres are concentrated in some places, where they strain local grids and water

2.3

similarity: both say data centres use energy; similarity: both say AI increases demand; difference: A gives a figure and mentions efficiency gains; B gives no figures; difference: A is neutral; B is emotional and calls for government action

2.4

origin: a campaign group; value: shows the concerns of environmental groups and the public debate; limitation: it may select facts that support its campaign; no data or sources given; purpose: to persuade governments and the public; value: makes a clear policy proposal; limitation: it ignores efficiency gains and the benefits of AI

3.1

Mark with the markbands: [top] a clear answer, both the sources and own knowledge used as evidence, different perspectives weighed, a reasoned judgement; [middle] sources and own knowledge used, some analysis, judgement not fully supported; [bottom] description of the sources only, little analysis. Points that may be included: uses Source A: data centres use about 1–1.5 % of world electricity, growing with AI; uses Source B: emissions rising despite promises; call for disclosure; for regulation: markets do not price emissions fully; disclosure lets users and investors compare companies; local impacts on grids and water in some regions; against: efficiency gains have limited growth (Source A); companies invest in renewable energy; rules may push data centres to countries with weaker rules; own knowledge, e.g. the EU’s energy efficiency rules requiring data centres to report energy use; a reasoned judgement

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