

Solutions

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

2.1

- any two of: software affects people's safety/money; users must be able to **trust** professionals; poor/dishonest work can cause real harm

2.2

- the right to control how an **original work** (code, images, music, documents) is copied, distributed, modified and performed

2.3

- open source** (FOSS)

2.4

- any one: public interest first; honesty about competence; confidentiality; avoid conflicts of interest; respect intellectual property

3.1

- any one impact, explained, e.g. hiding a bug could **harm users** (a medical/banking system fails)
- the developer may face dismissal or legal action and lost trust

3.2

(a) e.g. the actual program code / an image / a document (an original work)

(b) a general **idea or algorithm** (which may instead be patented)

3.3

- proprietary: source code hidden, used under strict paid terms
- open source: source available to view, modify and share, usually free
- so open source allows adaptation while proprietary protects the developer's product

3.4

- open source** (FOSS)
- it is free to install on every PC and the school may legally modify it for its own needs

3.5

- any two of: to follow a shared **code of conduct** / ethical standards; access to **training** and up-to-date professional guidance; recognition and **trust** from employers and clients; networking with other professionals

3.6

(a) any two, developed: students may stop developing their **own** writing and reasoning skills, because the tool does the difficult part for them

- it can widen inequality: students who can afford the better tools gain an advantage over those who cannot
- also acceptable: teachers can no longer tell what a student actually knows, so support is misdirected; students may pass work off as their own, which is plagiarism

(b) any one, developed: the AI may be **biased** against certain writing styles or dialects and mark them down unfairly

- or a student has no way to appeal to a human if the reasoning behind the mark is hidden

(c) any three: obtain **permission** before connecting a personal device; do not attempt to access other people's files or accounts; keep antivirus and operating system up to date so the network is not put at risk; do not install or share unlicensed software; respect the school's acceptable-use policy

(d) essays written in another country will use different conventions, vocabulary and cultural references, which the AI has not learned to reward

- so equally good work is marked lower — the model is **biased** by its training data
- the developers should train and test it on a **representative** range of student writing and check the marks it gives across those groups

(e) benefit: students and teachers can see **why** a mark was given, challenge it, and trust the system more

- drawback: publishing the method lets students **write to the algorithm** rather than write well, and may expose commercially sensitive details of the model