Explain why a high-quality software process should lead to high-quality software products. Discuss possible problems with this system of quality management.

A high-quality product will arise from a high-quality development process because during the process, the product will be constantly tested,
and proper documentation of expectations will be worked with alongside the development. Additionally, it will have to be dependable in live use,
and user-friendly. High-quality development will ensure the product is user-friendly.
The downside of trying to achieve the absolute perfect product by following notes, is that a development team will continue to try and improve the product,
and may never be happy with the current development stage.

Briefly describe possible standards that might be used for:

- The use of control constructs in Java
- Reports which might be submitted for a term project in a university
- The process of purchasing and installing a new computer

The use of control constructs in Java would be used to determine the flow of the program, and how each class associates with one another.
Reports submitted for a term project in a university would be benchmarked based on the use of knowledge from the course itself, as well as a conclusion
based on the student's own opinion and external research.
the purchase of a new computer would be based on the highest quality specs within a budget, based on the purpose of the computer.

Explain why program inspections are an effective technique for discovering errors in a
program. What types of error are unlikely to be discovered through inspections?

Design metrics are inadequate because they assume that quality is only related to what can be measured. In fact, it is very difficult to say
what quality really means, and it is certainly related to any different program attributes. The importance of these attributes varies from system to
system and from organization to organization. Also, it is difficult to make direct measurements of many of the software quality attributes.

Explain why design metrics are, by themselves, an inadequate method of predicting design quality, and why it is difficult to validate the relationships between internal product attributes, such as cyclomatic complexity and external attributes, such as maintainability

If structural design properties are not inherently meaningful, it is difficult to develop the product further, because we assume, they have a causal impact on external quality.
Undesirable structural properties such as high coupling or low cohesion indicate a - sometimes necessary - high cognitive complexity.
Cognitive complexity is the mental burden put on the persons who must deal with the design (developers, inspectors, testers, maintainers, etc.).
The high cognitive complexity in turn leads to poor external quality, such as increased fault-proneness, or decreased maintainability and testability.