

## Subject: Computing System Architecture

### Task 1

**1(a).** Ann wants to purchase a new computer and is looking at two models. The specification of the CPU in each computer is shown in **Fig. 1**.

Computer 1	Computer 2
Clock Speed 1GHZ	Clock Speed 1.4GHZ
Cache size 2MB	Cache size 2MB
Number of Cores 4	Number of Cores 2

When running a 3D flight simulator, Computer 1 is likely to run faster than Computer 2.

Using the information in **Fig. 1**, identify **one** reason for this.

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[1]

**(b).** Identify **two** internal components that are not in **Fig. 1**, which could improve the performance of the computers.

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[2]

**(c).** Identify **four** events that take place during the fetch-execute cycle.

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[4]

# Revision Tasks

2. Gareth has a satellite navigation system (Sat Nav) which contains an embedded system. Define what is meant by an 'embedded system'.

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[1]

3. Alicia has designed a computer using Von Neumann architecture.

Describe the purpose of **two** registers that are used by Von Neumann architecture.

1

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[  
4]