

## 4 Processor Fundamentals – Part 1 — Answers

---

### Answers

---

- 4.1** The address of the next instruction to be fetched.
- 4.2** A memory address (the location to read from or write to).
- 4.3** The arithmetic and logic unit (ALU) does calculations and logic; the control unit (CU) directs and coordinates the processor's actions.
- 4.4** Fetch the next instruction from memory; decode it; execute it (then repeat).
- 4.5** So that next time round the cycle the CPU fetches the *next* instruction in order, instead of repeating the same one — this is what moves the program forward.
- 4.6** The address 30 is copied from the Program Counter into the MAR. Memory location 30 is read and its contents are placed in the MDR. The instruction is then copied into the CIR ready to be decoded and executed, and the Program Counter is increased.