
Chapter 7 • Section 7.1 — Exercises (Mazidi)

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Problems are paraphrased to respect copyright. Short, teachable answers below.

1) The ARM7 uses a pipeline of _____ stages.

Answer: 3 stages.

2) Give the names of the pipeline stages in the ARM7.

Answer: Fetch → Decode → Execute.

3) The ARM9 uses a pipeline of _____ stages.

Answer: 5 stages.

4) Give the names of the pipeline stages in the ARM9.

Answer: Fetch → Decode → Execute → Memory → Write-back.

Notes for learners

- ARM7's 3-stage design keeps things simple but limits clock speed.
- ARM9 separates the **memory** access and **write-back** phases, enabling better overlap and higher frequencies (with hazards handled by the core).