AP CSA · UNIT 5 WRITING CLASSES · TEACHER ANSWER KEY

Answer Keys & Grading Notes

Objective-aligned exemplars, full-credit models, and the mistakes to watch for. **Do not distribute to students.**

True-up step: the objective sections below are built from the AP learning objectives. Paste your real Code.org prompts into chat and I'll fill exact question-by-question keys. The *AI-Proof Worked Answers* section matches the handwritten assignment exactly.

A · Class design checklist

Element	Correct form
`Instance variables`	private, declared at class level (private int score;)
`Constructor`	same name as class, no return type, sets instance variables via this
`Accessor`	public return-type getX() { return x; } — no parameters
`Mutator`	public void setX(int x) { this.x = x; } — no return

Common mistakes: Public instance variables (should be private); constructor with a return type; getter that prints instead of returns; forgetting this when parameter shadows a field.

B · static vs instance

Full-credit exemplar: Instance members belong to each object; static members belong to the class (shared). A static method can't use this or instance variables directly.

Common mistakes: Calling instance variables from a static method; thinking static means constant; scope confusion between local and instance variables.

AI-Proof Worked Answers — Writing Classes — Handwritten Class FRQ

Grade the handwritten sheet against these. Item numbers match the assignment.

Item	Correct answer
`1) Student class`	private String name; private int gpaTimes100; public Student(String name,int gpaTimes100){ this.name=name; this.gpaTimes100=gpaTimes100; } public String getName(){ return name; } public void setGpaTimes100(int g) { this.gpaTimes100=g; }
`2) why private`	encapsulation — the fields can only change through controlled methods
`3) getGpa()`	public double getGpa(){ return gpaTimes100 / 100.0; }