

Arch 463
 ECS
 Fall 99

Name _____

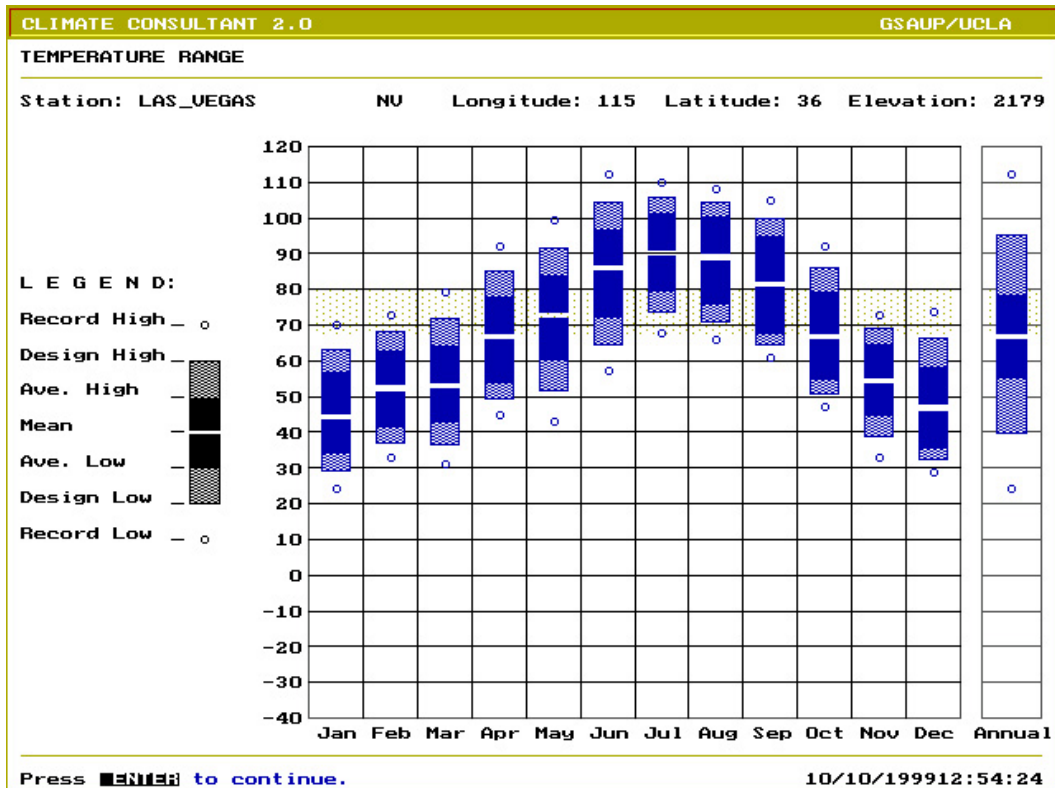
Quiz #2

"Critiquing Mark Mack"

For this problem you are the Green Architecture columnist for the *Las Vegas Strip News*. You've been alerted to the design of a new courtyard house by renowned San Francisco architect Mark Mack. You've obtained a plan, section, and rendering as well as a statement of the architect's intent upon which to base your criticism of the house.

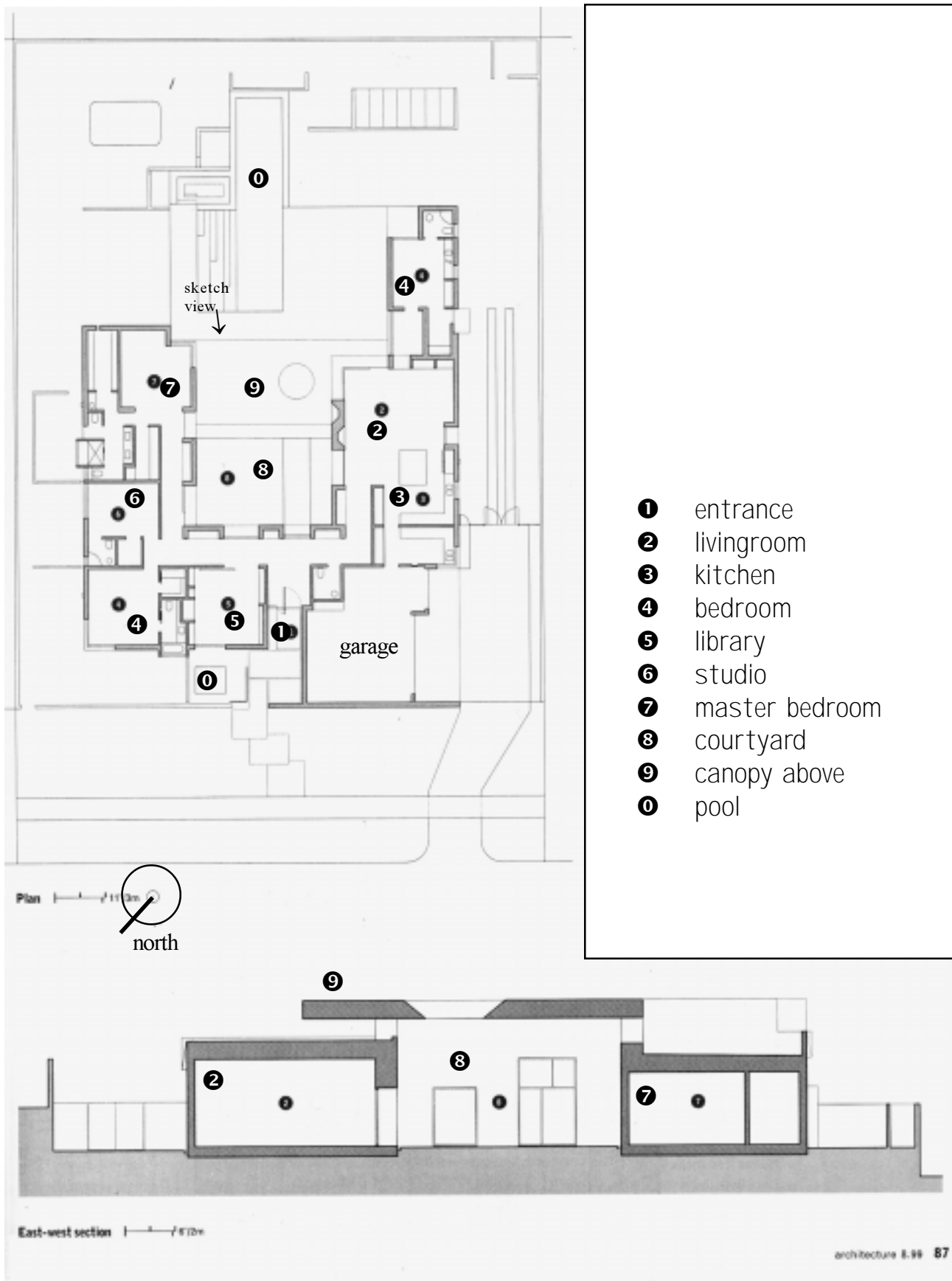
Architect's Intent. The core of the 5,000 sqft, three-bedroom house is a large central courtyard surrounded by a U-shaped configuration of living spaces with corner windows that captures an outdoor living room. Mack and the client share an admiration for the work of Mexican architect Luis Baragan who has shown Mack that, "modernism could be inflected with color, texture, and indigenous landscape." A large canopy, pierced by a round "sky hole" that lets the sun track a shape on the patio below, shades the courtyard and makes it usable almost year-round. When it's too hot the occupant can retreat into the large combination livingroom/diningroom/kitchen or the more private library. The floor is concrete and the ceiling height is 12' throughout the public spaces. This house is not a statement, but a retreat.

Climate Context. Las Vegas is located at 36° north latitude. It has a dry desert climate. Prevailing winds blow from the southwest throughout the year. The strongest and most dependable winds are in the afternoons from April through October.



[P.S.—You can find out how well this building turned out in the August 1999 edition of *Architecture*, p. 85–89.]

Building Plan and Section



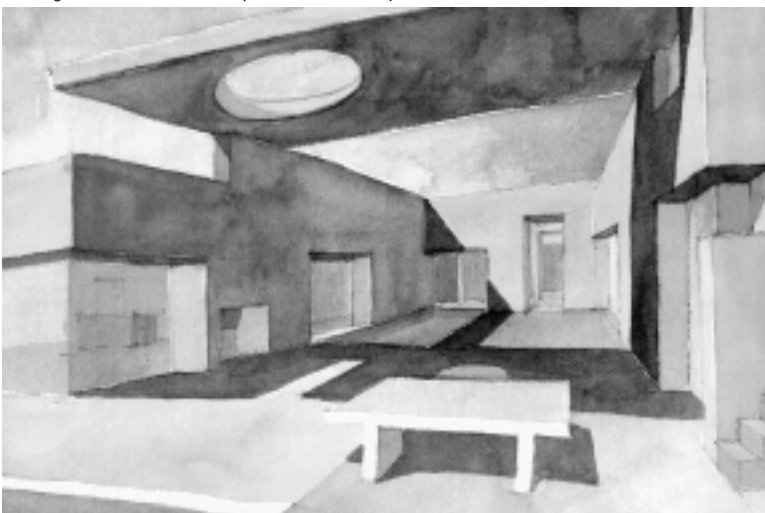
6 points

1. Strategies

Give **four** examples of passive heating and/or cooling strategies in the design that are appropriate for the Las Vegas climate and this building program. **Explain** why you believe each one is both appropriate and well thought out. Use **sketches and/or annotations** on the plan and section (facing page) to make your argument clear.

- 3 points*
2. **Design Changes**
Suggest in sketched plans, sections, and/or details **two** vital improvements that you would recommend to assure that the house functions as a good example of green architecture.
Explain how each of these changes responds to the climate, satisfies the program, and provides comfort to the occupant.

- 1 point*
3. **Scenario**
Explain what time of day and year the sketch portrays. **Annotate** the sketch to show a thermally comfortable place for a person. **Write** a rationale for your answer.



Watercolor sketch from poolside looking in a northerly direction.