FINAL, MTN GEOGRAPHY **NAME _____**

MAY 7, 1999 **SS# _____**

There are 200 possible points on this test. The amount of points vary with the questions. There are fill-in the blank questions, short answer, and essay questions. There is also an extra point question. I suggest that you scan the entire test before answering any questions. Good luck!

1 List any two of the three criteria used to define mountains in this class.

1) _____ 2.5 pts.

2) _____ 2.5 pts.

2 A town that was and still is the nexus of the fabled Silk Road is _____ (5 points):

3 The name of the precursor mountain range to the Colorado Front Range is _____ (5 points).

4 Halfdome and El Capitan in Yosemite Valley are _____ (5 points):

5 The Nevadan Orogeny was caused by the subduction of the _____ plate (5 points).

6 The Himalayas are formed by the collision of the _____ plate (2.5 pts) and the _____ plate (2.5 pts).

7 The primary control on treeline around the world appears to follow the _____ isotherm of the warmest month (5 points).

8 Fill-in the following table (1 point each, 3 answers provided):

Force	Fault Type	Mountain Type	Example
____tension____	_____	_____	_____
_____	____reverse____	_____	_____
_____	____thrust____	_____	_____

9 Match the following ages of a geologic transect taken near NCAR with the formation name and environment at the time of formation. Ages are in millions of years before present.

Age	Formation Name	Environment
270 my	_____ (1 pt).	_____ (1 pt).
250 my	_____ (1 pt).	_____ (1 pt).
140 my	_____ (1 pt).	_____ (1 pt).
90 my	_____ (1 pt).	_____ (1 pt).
1 my	_____ (1 pt).	_____ (1 pt).

10 For a slab avalanche to occur, there must be a _____ (2.5 pts) layer of snow over a _____ (2.5 pts) layer of snow.

11 Define glaciers and give a reasonable range for the density of glacial ice in percent liquid water (10 points).

12 What is the connection between the two large avalanches that occurred on Mt. Huascaran and the current tectonic activity in South America? (10 points).

13 Describe the connection between the start of the Laramide Orogeny and the end of the Nevadan Orogeny, and explain **WHY** this happened. (20 points).

14 Explain the evolution of Yosemite Valley. (20 points).

15 You, your brother and sister-in-law (attorneys from New York) and their 3 yappy dogs got lost on the Arikaree glacier in the Colorado Front Range for a year. The winter was normal but the summer was unusually cool and cloudy. Under these conditions, did the Arikaree Glacier increase in mass or decrease in mass? Be sure to include in your answer: i) glacier mass balance, ii) equilibrium line, iii) saturation vapor pressure, and iv) ablation. (20 points).

16 Draw a generic mountain and illustrate the following terms (points for artistic merit!): asthenosphere, lithosphere, sedimentary rocks, granitic rocks, metamorphic rocks, volcanic rocks, trench, upwelling magma. Now, explain why mountains have this generic structure, based on the paradigm of plate tectonics. Include in your answer the keywords above, plus geosyncline and subduction. (20 points).

17 Explain how clear-cutting of forests can change the hydrograph and hydrologic flowpaths of a mountain catchment. Use graphs in your answer. (20 points).

18 Argue **FOR** OR **AGAINST** the existence of wilderness areas in the United States. Use any 5 reasons presented in class throughout the semester; identify the reasons with numbers within your essay (20 points).

EXTRA CREDIT (10 points)

Answer ONE of the following questions.

• Name the highest mountain and the elevation of that mountain in these states: Alaska, Nevada, New Hampshire, Florida, Washington.

• Draw a map and list the major geographic features and political boundaries of today, from the Mediteranean Sea to Beijing China.