A105 quiz # 9 Winter 2003 Australopithecines Circle the one best answer:

"Australopithecine" is the general term for Pliocene hominids – members of the human family that have no ape descendants; there are three generally recognized genera (plural of "genus") of australopithecines: *Australopithecus, Paranthropus,* and *Ardipithecus.*

1. Which genus of australopithecine is the most recent, becoming extinct only about 1 million years ago? _____

1a. Which of the three is the oldest, the first, the most primitive? _____

Another way of dividing up the australopithecines is into three groups: gracile, robust, and primitive.

2. Which statement is FALSE?

A. *Aust. afarensis, Aust. anamensis*, and *Ardipithecus* are all "Primitive" australopithecines
B.. As time went on, over millions of years they evolved to have shorter legs and more sexual dimorphism.
C. boisei, aethiopicus, and robustus are all species of *Paranthropus*
D. The Black Skull was found by Alan Walker and the Leakeys in the 1980's, and is assigned to the species *Paranthropus aethiopicus*
E. The black skull was unexpectedly old, and showed the gracile and robust forms lived at the same time.

3. In what two ways are the robust form, *Paranthropus,* different from other australopithecines?

A. They have more sexual dimorphism, and tails
B. They have sagittal crests and large teeth and jaw muscles
C. They are short and have long arms
D. They have opposable big toes like apes, and long canines too
E. They are quadrupeds, not bipeds, and are nocturnal

4. Of the three (gracile, robust, and primitive), which one kind of australopithecine is most like ourselves in terms of teeth and chewing, and in skull shape, too? _____

4a. Which type of australopithecine (gracile, robust, or primitive) is the most recent, becoming extinct only about 1 million years ago? _____

5. At the site of Laetoli, Mary Leakey found:

A. Australopithecine houses B. Gazelles killed by Australopithecus
C. Footprints of primitive bipedal hominids. D. The Black skull

5a. The text book talks about a new kind of australopithecine, one we did not mention in class: *Australopithecus bahrelghazalia*; what is so special about it?

A. It was found in Asia, not Africa
B. It was the first to be found outside of South or east Africa, in Chad in north-central Africa to be specific.
C. It had wings and could fly
D. It was nine feet tall
E. It had a tail

6. Which is true about the fossil known as "Lucy"?

A. Was only about 3½ feet tall. B. Lived about 3 million or more years ago
C. Discovered by Don Johanson in the 1970's in Ethiopia
D. Species name: *Australopithecus afarensis*
E. All of these are true

7. Describe the ways in which the skulls and teeth of earliest australopithecines, the "Primitive" ones like Lucy and *Australopithecus anamensis*, were different from the later gracile ones.

8. What is there about the anatomy of the primitive australopithecines that suggests that their adaptation and locomotion was not just "terrestrial biped"?

9. The first ever discovery of an australopithecine in East Africa was:

A. Found by the Leakeys, Olduvai Gorge, 1959 B. Now called *Paranthropus boisei*
C. a very robust type, with huge teeth and jaws D. Originally called "Zinjanthropus"
E. All of these are true

10. Which is TRUE about Potassium/Argon dating?

A. It can be used to date bone fossils, but not rocks.
B. It can be used to date sedimentary rock like limestone, but not volcanic materials
C. It can be used for dating from the present back to a million years old, no older than that
D. Potassium 40 decays into Argon 40, so the more Ar 40 the longer the time since the rock was molten
E. It is a "relative" (or "stratigraphy") dating method, not a chronometric (or "absolute") method.

Print first name_____ last name_____

Bonus: Explain why can we get good dates for east African fossils but not South African ones; hint, it has to do with the geology.