

NAME: _____

1 – 4) In the table below, match each of the possible destinies of the Universe on the left with its correct description on the right by drawing a line from one to the other

The Big Crunch	The Universe continues to expand forever, at a faster and faster rate as time goes on. Eventually the effects of dark energy become so great as to overcome even the forces that hold atoms together
The Big Chill	The Universe continues to expand forever, but at a slower and slower rate as time goes on
The Modified Big Chill	The gravitational pull of the galaxies on each other is enough to overcome the expansion of the Universe, eventually pulling everything back together in a reverse of the Big Bang
The Big Rip	The Universe continues to expand forever, but at a faster and faster rate as time goes on

5) What does the acronym 'MACHO' stand for?

6) What does the acronymy 'WIMP' stand for?

7) *MACHOs* and *WIMPs* are different types of _____ .

8) Most planets around other stars are examples of dark matter. Why is this? That is, in what sense can planets around other stars be considered dark matter, while planets orbiting our own Sun are not?

9) The discovery of *dark energy* came from studies of...

- a) dark matter b) quasars c) nebulae d) Type IA supernovae

10) Rank the following from 1 to 3 in terms of their relative abundance in the Universe, with 1 being the most abundant and 3 being the least abundant:

Luminous matter (stars, nebulae, etc.): _____ Dark matter: _____ Dark energy: _____