

17.7: Mission Report 17 - Cosmological Parameter Estimation

A. Please rate on a scale of 1 to 5 how effective you think the Wrapping It Up activity was in helping you understand the material.
(1: not effective at all → 5: very effective) * 1 2 3 4 5

B. What were the main ideas that you learned in conducting the Wrapping It Up activity? Be specific and detailed in your response. Please address the following questions: What did you learn? How did you learn it? What is still unclear? (At least 150–200 words.)

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C. If the Wrapping It Up activity included measurements or data, please describe what factors influenced the accuracy of your results. (Do *not* include mistakes, only unavoidable measurement imprecision.) If you obtained any numerical values for the accuracy of your measurements during the activity, note those here. If there were no measurements or data, say so explicitly.

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D. Questions to be graded for accuracy. Show your work!

1. Describe two types of observational evidence that support the Big Bang theory and the concordance model.

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2. Give the approximate percentages of baryonic matter, dark matter, and dark energy as currently measured.

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3. Describe at least four possible fates of the Universe, and what the contents, geometry, and value of Ω will be in each case.

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4. Summarize the current understanding of what the fate of the Universe will be based on observational data.

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