

Astronomy 192 Quiz 12: April 15, 2005

Name (please print) \_\_\_\_\_ **KEY** \_\_\_\_\_  
Student Number (Last 4 digits only!) \_\_\_\_\_ **0000** \_\_\_\_\_

**Question 1:** Which of the following objects emits large amounts of radiation of all wavelengths?

- A. Black Holes
- B. Seyfert Galaxies**
- C. Quasars**
- D. Starburst Galaxies
- E. Neutron Stars

Both answers are acceptable. Quasars are the more luminous of the two.

**Question 2:** Which of the following objects are among the oldest ever observed here on Earth?

- A. Black Holes
- B. Seyfert Galaxies
- C. Quasars**
- D. Starburst Galaxies
- E. Neutron Stars

**Question 3:** Which of the following objects emits much more infrared radiation than it does visible light?

- A. Radio Galaxies
- B. Seyfert Galaxies
- C. Quasars
- D. Starburst Galaxies**
- E. Supermassive Black Holes

**Question 4:** A distant galaxy is discovered to lie 11 billion lys away, and is receding from us at a speed of  $0.925c$ , where  $c$  is the speed of light. Using this data alone, what is the approximate age of the Universe in years? (Hint: recall Hubble's law,  $v = H d$ ).

$1/H = 11.9 \times 10^9 = 11.9 \text{ billion years}$
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