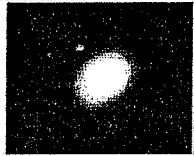
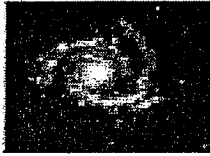
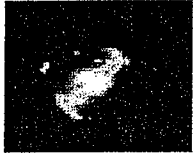


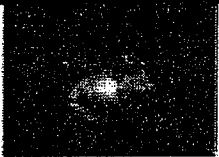
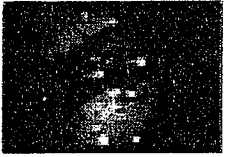
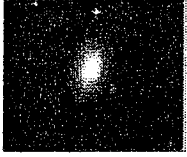



Galaxy Classification Worksheet

Below each picture of a galaxy, write the galaxy type and classification (i.e. Spiral, Sb).

Galaxy Classification Chart

 _____ _____	 _____ _____	 _____ _____
 _____ _____	 _____ _____	 _____ _____
 _____ _____	 _____ _____	 _____ _____

For each type of galaxy (spiral, elliptical and irregular), answer the following questions:

- 1) What type of stars are most common to each type of galaxy?
- 2) How does the interstellar matter differ between each type of galaxy?
- 3) How do astronomers currently think that elliptical and spiral galaxies formed?

Size and Shape of Milky Way

1) Use the period and luminosity data table below to construct an accurate period v. luminosity graph of the listed Cepheid variable stars. Put period on the horizontal axis (2 days / grid) and luminosity on the vertical axis (1000 / grid).

Star	Period (days)	Luminosity (sun = 1)
SU Cas	2.00	960
EV Sct	3.10	1,100
CF Cas	4.90	1,800
UY Per	5.40	2,500
CV Mon	5.40	2,300
VY Per	5.50	2,800
V367 Sct	6.30	3,500
U Sgr	6.70	3,900
DL Cas	8.00	3,700
S Nor	9.80	4,500
TW Nor	10.8	2,900
VX Per	10.9	5,900
SZ Cas	13.6	8,500
VY Car	18.9	11,200
T Mon	27.0	18,600
RS Pup	41.4	22,400
SV	45.0	30,200

2) From your graph, can you see a relationship between period and luminosity of variable stars? If so, what is the relationship? (i.e. linear, inverse, exponential?)

3) How can astronomers use the known luminosity of a star to find its distance? (Refer back to chapter 13.)

4) How did Harlow Shapley find distances to globular clusters in the Milky Way? (Refer to section 16.1)