Physics – Treon Name: _____

The Redshift of Light from Galaxies

The data table below contains information about the distance to and velocity of a random selection of galaxies. Note: All of the galaxies are redshifted.

GALAXY NAME	DISTANCE (MPc)	RECEESSIONAL VELOCITY (km/sec)
NGC 0055	2.0	94
NGC 0247	4.1	176
UGC 00685	6.0	271
UGC 002888	6.7	374
M 74	7.2	753
NGC 0045	8.0	493
NGC 0578	18.5	1616
NGC 0063	18.7	1303
NGC 2293	19.0	1782
NGC 074	19.5	1811
NGC 0596	20.8	1923
NGC 0524	25.0	2509
NGC 0289	27.4	1611
NGC 2271	29.3	2408
NGC 0514	34.4	2568
NGC 0632	37.4	3238
NGC 1700	39.2	3822
IC 0381	39.4	2629
NGC 1888	40.7	2308
NGC 0661	48.0	3969

Instructions. Plot the galaxy data on a graph to help you analyze it. Analyze the graph and answer the questions below.

Analysis Questions.

1. What is true about the motion of all of these galaxies, relative to us on Earth?

2. What is the relationship between the distance to the galaxy and the recessional velocity of the galaxy?

3. Draw a line of best fit. What prediction could you make about a galaxy that is 55.0 Mpc away?

4. Which of the following words best describes the relationship between the distance to and velocity of a galaxy? Why?

"Directly Proportional" "Inversely Proportional" "Not Related"