Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd: \_\_\_\_\_ Ast: \_\_\_\_\_

**Graphing the Planets’ Orbits**

*Below, you will find a data table with information about the orbits of the eight planets. Use the data table to create a graph comparing the planets’ PERIOD OF REVOLUTION to their AVERAGE DISTANCE FROM THE SUN. Then, answer the questions based on this relationship.*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PLANET** | **Mercury** | **Venus** | **Earth** | **Mars** | **Jupiter** | **Saturn** | **Uranus** | **Neptune** |
| **AVG. DISTANCE FROM SUN****(AU)** | 0.39 | 0.72 | 1.00 | 1.52 | 5.20 | 9.58 | 19.20 | 30.05 |
| **PERIOD OF REVOLUTION****(Earth Years)** | 0.24 | 0.62 | 1 | 1.9 | 11.9 | 29.4 | 84.0 | 164 |

1. A - What relationship do you see between a planet’s distance from the Sun and how long it takes for one revolution?

B - What reasons can you think of to explain this relationship?

*Below, you will find a data table with information about the orbits of the eight planets. Use the data table to create a graph comparing the planets’ ORBITAL SPEED to their AVERAGE DISTANCE FROM THE SUN. Then, answer the questions based on this relationship.*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PLANET** | **Mercury** | **Venus** | **Earth** | **Mars** | **Jupiter** | **Saturn** | **Uranus** | **Neptune** |
| **AVG. DISTANCE FROM SUN****(AU)** | 0.39 | 0.72 | 1.00 | 1.52 | 5.20 | 9.58 | 19.20 | 30.05 |
| **ORBITAL SPEED****(km/hr)** | 173,200 | 125,000 | 107,300 | 85,900 | 46,900 | 35,000 | 24,500 | 19,600 |

1. A - What relationship do you see between a planets distance from the Sun and how fast it moves in its orbit?

B - What reasons can you think of to explain this relationship?