**Standard Form - Real World Problems**

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| **1)** Use the information in the table to answer the questions below   |  |  |  |  | | --- | --- | --- | --- | | **Planet** | **Image** | **Mass (kg)** | **Distance to Sun (km)** | | **Saturn** | **http://www.mathster.com/assessment/qimages/Saturn_0.jpg** |  |  | | **Neptune** | **http://www.mathster.com/assessment/qimages/Neptune.jpg** |  |  | | **Jupiter** | **http://www.mathster.com/assessment/qimages/Jupiter.jpg** |  |  | | **Mars** | **http://www.mathster.com/assessment/qimages/Mars.jpg** |  |  |        a) Which planet is heaviest?     ..........       b) Which planet is nearest the sun?     .......... | [1] |
| **2)** Neptune is approximately   km from Earth. How many cars of length 3m could be placed end to end to reach Neptune from Earth?  Give your answer in **standard form rounded to 3 significant figures**. | [1] |
| **3)** Uranus has a diameter of   metres. Calculate the volume of Uranus in  , **giving your answer in standard form to 3 decimal places**. Note that the formula for volume of a sphere is        where   is radius. | [1] |
| **4)** Uranus is approximately  kilometres from the Sun. Calculate the time is would take light to travel from the Sun to Uranus, **giving your answer to the nearest minute**. Note that the speed of light is   metres per second. | [1] |
| **5)** Uranus has a mass of  kg and a volume of  m . Calculate the density of Uranus, giving your answer to 3 decimal places. Note that density is found by dividing mass (g) by volume (cm ). | [1] |

**Solutions for the assessment Standard Form - Real World Problems**

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| **1)** a) Jupiter, b) Mars | **2)** |
| **3)** | **4)** 160 minutes |
| **5)** 1.271 |  |