**Activity Pre-Quiz**

**The problem:** A 25-m diameter semispherical segmented dome is going to be constructed (see *Figure 1*). Six equal-length segments will be used to create the revolving line (see *Figure 2*). *Table 1* shows the relative positions of the revolving line vertices. Assuming the dome is a solid of revolution, **find the dome’s volume.** Show your work and give the result with three decimal places.

**Figure 1**



|  |  |
| --- | --- |
| ***x* (*m*)** | ***y* (*m*)** |
| 0.00000 | 5.00000 |
| 1.29410 | 4.82963 |
| 2.50000 | 4.33013 |
| 3.53553 | 3.53553 |
| 4.33013 | 2.50000 |
| 4.82963 | 1.29410 |

**Table 1**

**Figure 2**