# Ultrasound Imaging Worksheet Answers

**1. Use the acoustic imaging device to record data.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **In cm** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
| **grid** | **0** | **2** | **4** | **6** | **8** | **10** | **12** | **14** | **16** | **18** |
| **distance** | **21** | **21** | **15** | **11** | **10** | **10** | **11** | **15** | **21** | **21** |
| **height** | **0** | **0** | **6** | **10** | **11** | **11** | **10** | **6** | **0** | **0** |

**2. Use the graph paper to plot the data.**

**Title: One-dimensional shape of the object inside the box.**

**3. What is the shape of the object, as depicted by the graph?**

**Possible answers: round, oval or circular object.**

**4. What object is likely inside the black box?**

**Based on the image check list shown to the students before the activity, expect object identification to be quick. In this case, it is a ball with a radius of about 6.5 cm. The top is almost flat because the measurements are not accurate enough for a small variation of the distance. Note that the precision of the EV3 ultrasonic sensor is about 1 cm.**