

**Science Olympiad
Golden Gate Invitational**

January 31, 2026

Machines C Test Masses



Four sets of test masses were prepared for the tournament using 50 g and 100 g calibrated weights and 1/4" steel ball bearings in 2.75" by 4" burlap sacks with a flexible loop made from string and were calibrated using a scale with ± 0.01 g precision.

Their measurements are tabulated below in grams.

| Set # | Mass A | Mass B | Mass C |
|---------|--------|--------|--------|
| 1 | 20.77 | 182.28 | 189.09 |
| 2 | 20.79 | 182.31 | 189.10 |
| 3 | 20.83 | 182.31 | 189.10 |
| 4 | 20.83 | 182.32 | 189.14 |
| Average | 20.81 | 182.31 | 189.11 |

The target mass ratios were A/B = 0.114 and B/C = 0.964.