A close up of a map

Description automatically generatedA screenshot of a cell phone

Description automatically generatedA picture containing screenshot

Description automatically generated

**Figure 1**

**Figure 3**

**Figure 2**

A close up of a map

Description automatically generatedA screenshot of a cell phone

Description automatically generatedA screenshot of a cell phone

Description automatically generated

**Figure 4**

**Figure 6**

**Figure 5**

A close up of a map

Description automatically generatedA screenshot of a cell phone

Description automatically generated

**Figure 8**

**Figure 7**

A screenshot of a cell phone

Description automatically generated

**Figure 9**

A screenshot of a map

Description automatically generated

**Figure 10**

A screenshot of a cell phone

Description automatically generatedA screenshot of a cell phone

Description automatically generated

**Figure 12**

**Figure 11**

A screenshot of a map

Description automatically generated

**Figure 13**

A screenshot of a cell phone

Description automatically generated

**Figure 14**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Rolls** | **Dice Remaining 1** | **Dice Remaining 2** | **Dice Remaining 3** | **Mean** | **Standard Deviation** | **Standard Error on the Mean** | **Ln (Dice)** |
| 0 | 100 | 100 | 100 | 100 | 0.00 | 0.00 | 4.61 |
| 1 | 79 | 88 | 85 | 84.00 | 4.58 | 2.65 | 4.43 |
| 2 | 64 | 82 | 76 | 74.00 | 9.17 | 5.29 | 4.30 |
| 3 | 57 | 68 | 66 | 63.67 | 5.86 | 3.38 | 4.15 |
| 4 | 48 | 60 | 61 | 56.33 | 7.23 | 4.18 | 4.03 |
| 5 | 31 | 54 | 48 | 44.33 | 11.93 | 6.89 | 3.79 |
| 6 | 27 | 49 | 45 | 40.33 | 11.72 | 6.77 | 3.70 |
| 7 | 17 | 42 | 41 | 33.33 | 14.15 | 8.17 | 3.51 |
| 8 | 16 | 37 | 34 | 29.00 | 11.36 | 6.56 | 3.37 |
| 9 | 14 | 32 | 28 | 24.67 | 9.45 | 5.46 | 3.21 |
| 10 | 14 | 31 | 26 | 23.67 | 8.74 | 5.04 | 3.16 |
| 11 | 13 | 26 | 22 | 20.33 | 6.66 | 3.84 | 3.01 |
| 12 | 12 | 22 | 16 | 16.67 | 5.03 | 2.91 | 2.81 |
| 13 | 11 | 20 | 12 | 14.33 | 4.93 | 2.85 | 2.66 |
| 14 | 8 | 18 | 10 | 12.00 | 5.29 | 3.06 | 2.48 |
| 15 | 8 | 16 | 8 | 10.67 | 4.62 | 2.67 | 2.37 |
| 16 | 7 | 15 | 6 | 9.33 | 4.93 | 2.85 | 2.23 |
| 17 | 7 | 12 | 5 | 8.00 | 3.61 | 2.08 | 2.08 |
| 18 | 4 | 10 | 4 | 6.00 | 3.46 | 2.00 | 1.79 |
| 19 | 4 | 9 | 4 | 5.67 | 2.89 | 1.67 | 1.73 |
| 20 | 3 | 7 | 3 | 4.33 | 2.31 | 1.33 | 1.47 |
| 21 | 2 | 5 | 3 | 3.33 | 1.53 | 0.88 | 1.20 |
| 22 | 1 | 5 | 3 | 3.00 | 2.00 | 1.15 | 1.10 |
| 23 | 0 | 4 | 3 | 2.33 | 2.08 | 1.20 | 0.85 |
| 24 | 0 | 3 | 2 | 1.67 | 1.53 | 0.88 | 0.51 |
| 25 | 0 | 3 | 2 | 1.67 | 1.53 | 0.88 | 0.51 |
| 26 | 0 | 2 | 2 | 1.33 | 1.15 | 0.67 | 0.29 |
| 27 | 0 | 1 | 1 | 0.67 | 0.58 | 0.33 | -0.41 |
| 28 | 0 | 1 | 1 | 0.67 | 0.58 | 0.33 | -0.41 |
| 29 | 0 | 1 | 1 | 0.67 | 0.58 | 0.33 | -0.41 |
| 30 | 0 | 1 | 1 | 0.67 | 0.58 | 0.33 | -0.41 |
| 31 | 0 | 1 | 1 | 0.67 | 0.58 | 0.33 | -0.41 |
| 32 | 0 | 0 | 1 | 0.33 | 0.58 | 0.33 | -1.10 |
| 33 | 0 | 0 | 1 | 0.33 | 0.58 | 0.33 | -1.10 |
| 34 | 0 | 0 | 1 | 0.33 | 0.58 | 0.33 | -1.10 |
| 35 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | N/A |

**Figure 15**

**Figure 16**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Time (min)** | **N\_meas** | **N\_corr** | **d(N\_corr)** | **ln N\_corr** | **d(ln N\_corr)** |
| 1 | 537 | 503.80 | 23.24 | 6.22 | 0.05 |
| 2 | 572 | 538.80 | 23.99 | 6.29 | 0.04 |
| 3 | 560 | 526.80 | 23.73 | 6.27 | 0.05 |
| 4 | 515 | 481.80 | 22.77 | 6.18 | 0.05 |
| 5 | 555 | 521.80 | 23.63 | 6.26 | 0.05 |
| 6 | 519 | 485.80 | 22.85 | 6.19 | 0.05 |
| 7 | 468 | 434.80 | 21.71 | 6.07 | 0.05 |
| 8 | 526 | 492.80 | 23.01 | 6.20 | 0.05 |
| 9 | 541 | 507.80 | 23.33 | 6.23 | 0.05 |
| 10 | 491 | 457.80 | 22.23 | 6.13 | 0.05 |
| 11 | 503 | 469.80 | 22.50 | 6.15 | 0.05 |
| 12 | 467 | 433.80 | 21.69 | 6.07 | 0.05 |
| 13 | 475 | 441.80 | 21.87 | 6.09 | 0.05 |
| 14 | 497 | 463.80 | 22.37 | 6.14 | 0.05 |
| 15 | 451 | 417.80 | 21.31 | 6.04 | 0.05 |
| 16 | 520 | 486.80 | 22.88 | 6.19 | 0.05 |
| 17 | 436 | 402.80 | 20.96 | 6.00 | 0.05 |
| 18 | 460 | 426.80 | 21.52 | 6.06 | 0.05 |
| 19 | 428 | 394.80 | 20.77 | 5.98 | 0.05 |
| 20 | 461 | 427.80 | 21.55 | 6.06 | 0.05 |
| 21 | 457 | 423.80 | 21.46 | 6.05 | 0.05 |
| 22 | 436 | 402.80 | 20.96 | 6.00 | 0.05 |
| 23 | 444 | 410.80 | 21.15 | 6.02 | 0.05 |
| 24 | 463 | 429.80 | 21.59 | 6.06 | 0.05 |
| 25 | 417 | 383.80 | 20.50 | 5.95 | 0.05 |
| 26 | 445 | 411.80 | 21.17 | 6.02 | 0.05 |
| 27 | 425 | 391.80 | 20.70 | 5.97 | 0.05 |
| 28 | 378 | 344.80 | 19.53 | 5.84 | 0.06 |
| 29 | 386 | 352.80 | 19.73 | 5.87 | 0.06 |
| 30 | 375 | 341.80 | 19.45 | 5.83 | 0.06 |
| 31 | 404 | 370.80 | 20.18 | 5.92 | 0.05 |
| 32 | 386 | 352.80 | 19.73 | 5.87 | 0.06 |
| 33 | 383 | 349.80 | 19.66 | 5.86 | 0.06 |
| 34 | 367 | 333.80 | 19.24 | 5.81 | 0.06 |
| 35 | 376 | 342.80 | 19.48 | 5.84 | 0.06 |
| 36 | 365 | 331.80 | 19.19 | 5.80 | 0.06 |
| 37 | 371 | 337.80 | 19.35 | 5.82 | 0.06 |
| 38 | 369 | 335.80 | 19.30 | 5.82 | 0.06 |
| 39 | 381 | 347.80 | 19.60 | 5.85 | 0.06 |
| 40 | 369 | 335.80 | 19.30 | 5.82 | 0.06 |
| 41 | 349 | 315.80 | 18.77 | 5.76 | 0.06 |
| 42 | 337 | 303.80 | 18.45 | 5.72 | 0.06 |
| 43 | 331 | 297.80 | 18.28 | 5.70 | 0.06 |
| 44 | 314 | 280.80 | 17.81 | 5.64 | 0.06 |
| 45 | 331 | 297.80 | 18.28 | 5.70 | 0.06 |
| 46 | 339 | 305.80 | 18.50 | 5.72 | 0.06 |
| 47 | 329 | 295.80 | 18.23 | 5.69 | 0.06 |
| 48 | 318 | 284.80 | 17.93 | 5.65 | 0.06 |
| 49 | 346 | 312.80 | 18.69 | 5.75 | 0.06 |
| 50 | 346 | 312.80 | 18.69 | 5.75 | 0.06 |
| 51 | 332 | 298.80 | 18.31 | 5.70 | 0.06 |
| 52 | 301 | 267.80 | 17.44 | 5.59 | 0.07 |
| 53 | 298 | 264.80 | 17.36 | 5.58 | 0.07 |
| 54 | 296 | 262.80 | 17.30 | 5.57 | 0.07 |
| 55 | 297 | 263.80 | 17.33 | 5.58 | 0.07 |
| 56 | 266 | 232.80 | 16.41 | 5.45 | 0.07 |
| 57 | 302 | 268.80 | 17.47 | 5.59 | 0.07 |
| 58 | 308 | 274.80 | 17.64 | 5.62 | 0.06 |
| 59 | 307 | 273.80 | 17.62 | 5.61 | 0.06 |
| 60 | 274 | 240.80 | 16.65 | 5.48 | 0.07 |
| 61 | 273 | 239.80 | 16.62 | 5.48 | 0.07 |
| 62 | 270 | 236.80 | 16.53 | 5.47 | 0.07 |
| 63 | 263 | 229.80 | 16.32 | 5.44 | 0.07 |
| 64 | 292 | 258.80 | 17.18 | 5.56 | 0.07 |
| 65 | 262 | 228.80 | 16.29 | 5.43 | 0.07 |
| 66 | 268 | 234.80 | 16.47 | 5.46 | 0.07 |
| 67 | 237 | 203.80 | 15.50 | 5.32 | 0.08 |
| 68 | 225 | 191.80 | 15.11 | 5.26 | 0.08 |
| 69 | 248 | 214.80 | 15.85 | 5.37 | 0.07 |
| 70 | 252 | 218.80 | 15.98 | 5.39 | 0.07 |
| 71 | 232 | 198.80 | 15.34 | 5.29 | 0.08 |
| 72 | 231 | 197.80 | 15.31 | 5.29 | 0.08 |
| 73 | 219 | 185.80 | 14.91 | 5.22 | 0.08 |
| 74 | 270 | 236.80 | 16.53 | 5.47 | 0.07 |
| 75 | 210 | 176.80 | 14.61 | 5.18 | 0.08 |
| 76 | 239 | 205.80 | 15.57 | 5.33 | 0.08 |
| 77 | 224 | 190.80 | 15.08 | 5.25 | 0.08 |
| 78 | 227 | 193.80 | 15.18 | 5.27 | 0.08 |
| 79 | 234 | 200.80 | 15.41 | 5.30 | 0.08 |
| 80 | 217 | 183.80 | 14.84 | 5.21 | 0.08 |
| 81 | 192 | 158.80 | 13.98 | 5.07 | 0.09 |
| 82 | 230 | 196.80 | 15.27 | 5.28 | 0.08 |
| 83 | 226 | 192.80 | 15.14 | 5.26 | 0.08 |
| 84 | 213 | 179.80 | 14.71 | 5.19 | 0.08 |
| 85 | 191 | 157.80 | 13.94 | 5.06 | 0.09 |
| 86 | 212 | 178.80 | 14.67 | 5.19 | 0.08 |
| 87 | 203 | 169.80 | 14.36 | 5.13 | 0.08 |
| 88 | 198 | 164.80 | 14.19 | 5.10 | 0.09 |
| 89 | 204 | 170.80 | 14.40 | 5.14 | 0.08 |
| 90 | 198 | 164.80 | 14.19 | 5.10 | 0.09 |
|  |  |  |  |  |  |

**Figure 17**

**Figure 18**

|  |  |  |
| --- | --- | --- |
| **Result: Half-life of Indium116** | | |
|  |  |  |
| T\_1/2 | 52.5 | min |
| d(T\_1/2) | 1.0 | min |

|  |  |  |
| --- | --- | --- |
| **Linear Fit** | | |
|  |  |  |
|  | Gradient | Intercept |
| Fit | -0.01320328 | 6.291285239 |
| Uncertainty | 0.000245286 | 0.012851589 |