

Problem #1: Doubling \$.01 Per Day For 30 Days

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|--------|----------|---|------------------|--------|----------------|---|------------------|
| Day 1 | \$.01 | = | 2^0¢ | Day 16 | \$327.68 | = | 2^{15}¢ |
| Day 2 | \$.02 | = | 2^1¢ | Day 17 | \$655.36 | = | 2^{16}¢ |
| Day 3 | \$.04 | = | 2^2¢ | Day 18 | \$1,310.72 | = | 2^{17}¢ |
| Day 4 | \$.08 | = | 2^3¢ | Day 19 | \$2,621.44 | = | 2^{18}¢ |
| Day 5 | \$.16 | = | 2^4¢ | Day 20 | \$5,242.88 | = | 2^{19}¢ |
| Day 6 | \$.32 | = | 2^5¢ | Day 21 | \$10,485.76 | = | 2^{20}¢ |
| Day 7 | \$.64 | = | 2^6¢ | Day 22 | \$20,971.52 | = | 2^{21}¢ |
| Day 8 | \$1.28 | = | 2^7¢ | Day 23 | \$41,943.04 | = | 2^{22}¢ |
| Day 9 | \$2.56 | = | 2^8¢ | Day 24 | \$83,886.08 | = | 2^{23}¢ |
| Day 10 | \$5.12 | = | 2^9¢ | Day 25 | \$167,772.16 | = | 2^{24}¢ |
| Day 11 | \$10.24 | = | 2^{10}¢ | Day 26 | \$335,544.32 | = | 2^{25}¢ |
| Day 12 | \$20.48 | = | 2^{11}¢ | Day 27 | \$671,088.64 | = | 2^{26}¢ |
| Day 13 | \$40.96 | = | 2^{12}¢ | Day 28 | \$1,342,177.28 | = | 2^{27}¢ |
| Day 14 | \$81.92 | = | 2^{13}¢ | Day 29 | \$2,684,354.56 | = | 2^{28}¢ |
| Day 15 | \$163.84 | = | 2^{14}¢ | Day 30 | \$5,368,709.12 | = | 2^{29}¢ |

Problem #2: \$1,000.00 a Day with \$1,000.00 a Day Raise for 30 Days

| | | | |
|--------|-------------|--------|-------------|
| Day 1 | \$1,000.00 | Day 16 | \$16,000.00 |
| Day 2 | \$2,000.00 | Day 17 | \$17,000.00 |
| Day 3 | \$3,000.00 | Day 18 | \$18,000.00 |
| Day 4 | \$4,000.00 | Day 19 | \$19,000.00 |
| Day 5 | \$5,000.00 | Day 20 | \$20,000.00 |
| Day 6 | \$6,000.00 | Day 21 | \$21,000.00 |
| Day 7 | \$7,000.00 | Day 22 | \$22,000.00 |
| Day 8 | \$8,000.00 | Day 23 | \$23,000.00 |
| Day 9 | \$9,000.00 | Day 24 | \$24,000.00 |
| Day 10 | \$10,000.00 | Day 25 | \$25,000.00 |
| Day 11 | \$11,000.00 | Day 26 | \$26,000.00 |
| Day 12 | \$12,000.00 | Day 27 | \$27,000.00 |
| Day 13 | \$13,000.00 | Day 28 | \$28,000.00 |
| Day 14 | \$14,000.00 | Day 29 | \$29,000.00 |
| Day 15 | \$15,000.00 | Day 30 | \$30,000.00 |

Comparative Analysis

Problem #2

Notice that when we pair Day 1 with Day 30, Day 2 with Day 29, etc., the totals are always \$31,000.00. Your total income for the 30 days will be $15(31,000) = \$465,000.00$

Problem #1

Day 30 your uncle would owe you 2^{29}¢ or \$5,368.709.12. The total income for the 30 days will be \$10,737,418.23.