

## Which Would You Choose?

DO NOT WRITE ON THIS PAPER!

Your rich uncle, Earl Exponential, has bequeathed you with part of his fortune. He will add money into your bank account each day *for an unspecified amount of time*. He has two different monetary offers for you to choose from:

### Option A

He gives you \$1 to start (Day 0). Each day after that, he will give you enough money so that your bank account has \$2 on the first day, \$4 on the second day, \$8 on the third day, \$16 on the fourth day, and so on.

### Option B

He will give you \$1,000,000 to start (Day 0). Each day after that, he will give you \$50,000.

- 1) Uncle Earl just called, and he wants to know NOW which option you are choosing. Quick! Before doing any math, make your choice; Option A or Option B? **Explain why you made the choice you did.**
- 2) Do you think Option A will eventually pass Option B? If you said yes, make a prediction (without doing any calculations) about how long it will take. If you said no, explain why not.
- 3) Do some math to investigate the two options. You may use a calculator. Show your work/results in some type of organized way.
- 4) Keep working on #3 until you have convinced yourself of which choice is better. When you are done with this, state your choice and reasoning: "Option \_\_\_ is better because \_\_\_\_\_."
- 5) Choose a day in the future beyond what you have calculated so far. For this day, calculate the difference in money between Option A and Option B.

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