

What is *exponential growth*?

Exponential growth is a rapid rate of growth that occurs when an increase in the amount of something is made by a multiplier instead of by a linear addition of a set number.

Exponential growth = $4^3 = 4 \times 4 \times 4 = 64$

Linear growth = $4 + 4 + 4 = 12$

Which would result in more?

Doubling what you earn each day would earn more than earning the same each day.

How much would you earn on the last day of the month if:

A. You earned 1 cent per day? 1 cent (1 cent per day for 31 days = **\$0.31 for the whole month**)

B. You earn one cent on day 1, but then double what you earn each day?

Day 1 = 1 cent

Day 2 = $2^1 = 2$ cents

Day 3 = $2^2 = 4$ cents

Day 4 = $2^3 = 8$ cents

Day 5 = $2^4 = 16$ cents....

Day 31 = $2^{30} = 1,073,741,824$ cents. (That's over 10 million **dollars** on just the last day of the month.)