

# Overview of Crucial Mathematic Concepts to Improve Investments

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## Editorial

Invested capital refers to an asset or thing acquired with the goal of generating income or appreciation. The phrase "appreciation" refers to an asset's worth steadily increasing over time. When someone buys something as an investment, the purpose is to use it to make money over time, not to spend it. The following is a compilation of basic mathematical ideas and facts that will assist a person in becoming a better investor. Compound interest, like the rule of 72, is the "eighth marvel of the cosmos," according to Einstein. Divide the interest rate by 72 to find out how long it takes for money to double when compounded.

Money compounded at 4% each year will have doubled in eighteen years. If compounded at a rate of 9%, it will double in 8 years. If compounded at a rate of 16 percent, it will double in 4½ years. In 1896, Italian economist Vilfredo Pareto noted that just 20% of the population possessed 80% of the land in Italy, as stated in the Pareto Principle. It is a well-known business maxim that 20% of customers create 80% of sales. When physicians had a lot more authority, 20% of the referring physicians would make 80% of your recommendations. This trend has been seen in a variety of natural disasters.

Despite being discovered in ancient Indian literature, the Fibonacci Numbers are named after the Italian mathematician Leonardo of Pisa, afterwards known as Fibonacci. It was first used to estimate rabbit population growth. Each number, starting with 0 and 1, is the sum of the two numbers preceding it. Tree branching, artichoke blossoming, and pine cone arrangement are just a few of the natural applications of the Fibonacci sequence. More applications may be found in mathematics, economics, and computer science. If you've ever wondered how a computer can detect whether your credit card information is legitimate so rapidly, you've probably pondered about the Luhn Algorithm. The Luhn Algorithm is a "modulus 10" algorithm named after IBM scientist Hans Peter Luhn.

It's a checksum algorithm that's used to verify a variety of identifying numbers, including credit cards and a variety of government ID numbers. To get the entire account number, the algorithm compares a number to the check digit, which is typically tied to a partial account number. First and foremost, a 40 percent chance does not apply to circumstances in which probability implies a 40 percent possibility. In Texas Hold'em, the player is dealt two hole cards face-down, while the five community cards are dealt face-up: three together as the flop, the next card as the turn, and the last card as the river.

If a player's hole cards are both spades and two of the three cards on the flop are also spades, they have a 40% chance of completing their flush, which comprises of five cards of the same suit. A spade on the turn has a chance of  $9/47 = 0.191$ , whereas a spade on the river has a chance of  $9/46 = 0.196$ . Overall probability is 39.6% ( $0.191 + 0.196$ ). This might be referred to as a forecaster who is aiming to make a large prediction recommendation in the future. Another intriguing idea is Blaise Pascal's Wager, which states that a prudent person should act as if God existed and believe in God in the 17th century.

If God does not exist, such a person will suffer only a limited loss, such as some pleasure, but the benefits from an eternity in Heaven can be endless, and the infinite losses from an eternity in Hell can be avoided. Pascal's Wager is an example of decision-making in the face of uncertainty. It's also a good reminder to stay away from circumstances where the risk of loss is high or even infinite, such as being a general partner, where you're responsible for everything [1-5].

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