Rule of 72 Reference Card

Chapter 5.2: Understanding the Power of Compound Interest and the Rule of 72

What is the Rule of 72?

The Rule of 72 is a simple mental math shortcut that helps you estimate how long it will take for an investment to double in value at a given compound interest rate.

> **Years to Double = 72 ÷ Interest Rate (%)**

How to Use the Rule of 72:

1. Take the number 72
2. Divide it by the annual interest rate (as a percentage)
3. The result is the approximate number of years it will take for your investment to double

> **Example:**
>
> If you invest money at 8% compound interest, how long will it take to double?
>
> Years to double = 72 ÷ 8 = 9 years
>
> So it would take approximately 9 years for your investment to double in value.

Remember: The Rule of 72 gives you an estimate. For more precise calculations, you can use the compound interest formula.

Quick Reference Table

Interest Rate	Years to Double	Interest Rate	Years to Double
1%	72.0 years	8%	9.0 years
2%	36.0 years	9%	8.0 years
3%	24.0 years	10%	7.2 years
4%	18.0 years	11%	6.5 years
5%	14.4 years	12%	6.0 years
6%	12.0 years	15%	4.8 years
7%	10.3 years	18%	4.0 years

2%
36 years

4%
18 years

6%
12 years

8%
9 years

9%
8 years

12%
6 years

Reversing the Rule of 72

You can also use the Rule of 72 to find the interest rate needed to double your money in a certain timeframe:

> **Interest Rate Needed (%) = 72 ÷ Years to Double**

> **Example:**
>
> If you want your investment to double in 6 years, what interest rate do you need?
>
> Interest rate needed = 72 ÷ 6 = 12%
>
> So you would need an investment with approximately 12% annual compound interest.

Applications of the Rule of 72

- **Investment Planning:** Quickly estimate how different interest rates affect doubling time
- **Retirement Planning:** See how many times your money might double before retirement
- **Comparing Investments:** Easily compare the growth potential of different options
- **Inflation Impact:** Estimate how long it will take for prices to double at current inflation rates
- **Goal Setting:** Determine what interest rate you need to reach your financial goals

Important Notes:

- The Rule of 72 is most accurate for interest rates between 6% and 10%
- For very low interest rates (below 4%), the Rule of 69.3 is more accurate
- For higher interest rates (above 10%), the Rule of 72 slightly underestimates doubling time
- The rule assumes steady, unchanging interest rates over the entire period

Multiple Doublings

Money that doubles once becomes 2× the original amount, but multiple doublings create dramatic growth:

- 1 doubling = 2× your money
- 2 doublings = 4× your money
- 3 doublings = 8× your money
- 4 doublings = 16× your money
- 5 doublings = 32× your money
- 10 doublings = 1,024× your money

Example of Multiple Doublings:

With an 8% interest rate, your money doubles every 9 years:

- Initial investment: $1,000
- After 9 years: ~$2,000 (1 doubling)

- After 18 years: ~$4,000 (2 doublings)
- After 27 years: ~$8,000 (3 doublings)
- After 36 years: ~$16,000 (4 doublings)
- After 45 years: ~$32,000 (5 doublings)
