

# *Compound Interest* **RULE OF 72**

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*“Money makes money.  
And the money that money  
makes, makes money.”*

*– Ben Franklin*

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Compound interest =  
**earning interest on your interest**

You can use the

# *Rule of 72*

to approximate how long it will take for an **investment to double** at a given interest rate

# USEFUL FOR



**COMPARING  
INVESTMENTS**



**SAVINGS  
GOALS**



**RETIREMENT  
GOALS**

# HOW TO 72

Divide the rule number **(72)** by the annual interest rate **(R)** to find out the approximate time **(T)** required for doubling



The Rule of 72 only applies to compound interest, not to simple interest calculations

# HOW TO 72

$$72 \div R = T$$

INTEREST RATE  
↓  
R

YEARS TO DOUBLE  
↓  
T

The diagram illustrates the Rule of 72 formula. It features three orange boxes with white borders. The first box contains the number '72' in a bold, dark blue font. To its right is a dark blue division symbol (÷). The second box contains the letter 'R' in a bold, dark blue font. To its right is a dark blue equals sign (=). The third box contains the letter 'T' in a bold, dark blue font. Above the 'R' box, the words 'INTEREST RATE' are written in a dark blue, sans-serif font, with a light blue arrow pointing down to the 'R'. Above the 'T' box, the words 'YEARS TO DOUBLE' are written in a dark blue, sans-serif font, with a light blue arrow pointing down to the 'T'.

# HOW TO 72

3% ANNUAL  
INTEREST  
RATE

24 YEARS  
TO DOUBLE

The diagram illustrates the Rule of 72. It features a horizontal sequence of elements: the number 72 in a blue font inside an orange square, followed by a blue division symbol (÷), the number 3 in an orange font inside an orange square, followed by a blue equals sign (=), and the number 24 in an orange font inside an orange square. Above the number 3, the text '3% ANNUAL INTEREST RATE' is written in blue, with a blue arrow pointing down to the number 3. Above the number 24, the text '24 YEARS TO DOUBLE' is written in blue, with a blue arrow pointing down to the number 24.

$$72 \div 3 = 24$$



# COMPARING THE MATH



Although scientific calculators and spreadsheet programs have functions to find the accurate doubling time, the Rule of 72 is useful for mental calculations or when only a basic calculator is available

# COMPARING THE MATH

*This table illustrates just how close the Rule of 72 is to the actual doubling time*

| Interest rate | Actual years | Rule of 72 |
|---------------|--------------|------------|
| 1%            | 69.66        | 72.00      |
| 2%            | 35.00        | 36.00      |
| 3%            | 23.45        | 24.00      |
| 4%            | 17.67        | 18.00      |

# COMPARING THE MATH

*This table illustrates just how close the Rule of 72 is to the actual doubling time*

| Interest rate | Actual years | Rule of 72 |
|---------------|--------------|------------|
| 5%            | 14.21        | 14.40      |
| 6%            | 11.90        | 12.00      |
| 7%            | 10.24        | 10.29      |
| 8%            | 9.01         | 9.00       |

# COMPARING THE MATH

*This table illustrates just how close the Rule of 72 is to the actual doubling time*

| Interest rate | Actual years | Rule of 72 |
|---------------|--------------|------------|
| 9%            | 8.04         | 8.00       |
| 10%           | 7.27         | 7.20       |
| 11%           | 6.64         | 6.55       |
| 12%           | 6.12         | 6.00       |

*Doubling*  
**IN ACTION**



Modest increases in rates have a dramatic effect on the doubling time

| Years | 1.5%     | 3%       | 6%        | 12%         |
|-------|----------|----------|-----------|-------------|
| 0     | \$10,000 | \$10,000 | \$10,000  | \$10,000    |
| 6     |          |          |           | \$20,000    |
| 12    |          |          | \$20,000  | \$40,000    |
| 18    |          |          |           | \$80,000    |
| 24    |          | \$20,000 | \$40,000  | \$160,000   |
| 30    |          |          |           | \$320,000   |
| 36    |          |          | \$80,000  | \$640,000   |
| 42    |          |          |           | \$1,280,000 |
| 48    | \$20,000 | \$40,000 | \$160,000 | \$2,560,000 |

# THE TAKEAWAY



Use the Rule of 72 to estimate your potential savings. Time is money when it comes to compound interest—the longer you wait to get started, the less interest you'll earn.

## INVESTING CAN BE RISKY

Not all investments are guaranteed—  
some investments carry the risk of losing  
money, even when made through a  
financial advisor or financial institution





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Sources: *All the Math You'll Ever Need* by Steven Slavin, [BetterExplained.com](http://BetterExplained.com)

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