

Welcome Back

Exam- Will be in class next week (Thursday and Friday)

Covers...

What we were reviewing before
the break

Simple Interest $I=Prt$

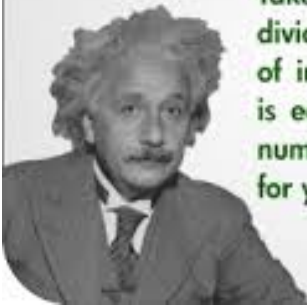
Compound Interest

Finishing up the Money unit with...

- 1) The Rule of 72
- 2) Rate of Return

the **RULE** of **72**

Rule of 72



Take the number 72 and divide it by the annual rate of interest that your money is earning to determine the number of years it will take for your money to double.

Interest = r

DID YOU KNOW THAT...

According to **ALBERT EINSTEIN** Compound interest was not only man's greatest invention, but it was also the most powerful force on Earth!

This follows the

RULE OF 72

That states the number of Years your investment will take to double, given a fixed annual rate of interest



$$\frac{72}{\text{Interest Rate}} = \text{Number of YEARS to DOUBLE}$$

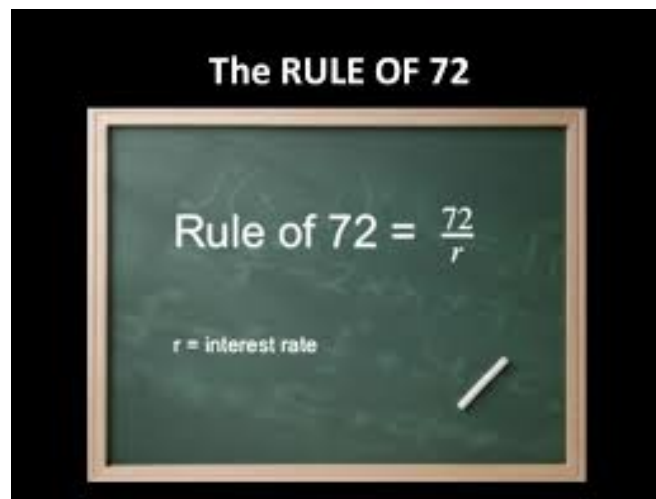
www.fitchphotohabits.com

the RULE of 72

Just to clarify...

The rule of 72 states that if you divide 72 by the interest rate you can tell APPROXIMATELY how long it will take for an investment to double

the RULE of 72





Example: How long would an investment take to double if it was 10%

- 1) We know that $\frac{72}{r}$ = the time needed for an investment to double
- 2) r =interest rate so in this example $r=10\%$
- 3) So $72/10= 7.2$ years for your investment to double at an interest rate of 10%.

Using the rule of 72 calculate how long it would take an investment to double according to the interest rates given below;

a) 2% $\frac{72}{2} = 36$ years for an investment to double

b) 5% $\rightarrow \frac{72}{5} = 14.4$ years.

c) 9% $\rightarrow 72/9 = 8$ years.

d) 12% = $\frac{72}{12} = 6$ years

e) 25% $\frac{72}{25} = 2.88$ years.

 <http://vimeo.com/102765388>

Rate of Return

Rate of return is the ratio of money gained (or lost) on an investment relative to the amount of money invested.

Rate of return = $[(\text{Return} - \text{Principle}) / \text{Principle}] \times 100\%$

Return is the amount you earn or lose

Principle is the amount you invest

Bracket -
RETURN

Rate of Return

Example: You invested \$100 in stocks after 1 year, it is worth 110\$. What is the rate of return.

Rate of return = $[(\text{Return} - \text{Principle}) / \text{Principle}] \times 100\%$

Return = 110

Principle = $\frac{\text{invested/borrowed}}{100}$

$$[(110 - 100) / 100] \times 100$$

$$[10 / 100] \times 100$$

$$[10\%] \times 100$$
$$= 10\%$$

Examples

1) What is the rate of return if a \$2,000 investment was worth \$2,250 after 1 year?

$$\text{Rate of Return} = \left(\frac{2250 - 2000}{2250} \right) \times 100$$

$$\left(\frac{250}{2250} \right) \times 100\%$$

$$0.11 \times 100\%$$

$$11\%$$

2) What is the rate of return if a \$5,000 investment was worth \$6,500 after 1 year?

$$\text{Rate of Return} = \left(\frac{6500 - 5000}{6500} \right) \times 100$$

3) What is the rate of return if a \$3,500 investment was worth \$3,100 after 1 year?

$$\left(\frac{3100 - 3500}{3100} \right) \times 100$$

Rule of 72 sheet.

$$\frac{72}{r}$$