

## MATEMÁTICA FINANCEIRA



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### JUROS COMPOSTOS

- Os juros incidem sobre o capital inicial da operação e sobre os juros acumulados até o período anterior

• Fórmulas:

• Juros:  $J = PV [(1 + i)^n - 1]$  ou  $J = FV - PV$

• Montante:  $FV = PV(1 + i)^n$

• Período:  $n = \frac{\log(FV/PV)}{\log(1+i)}$  ou  $n = \frac{\ln(FV/PV)}{\ln(1+i)}$




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### TAXA EQUIVALENTE (p/ juro composto)

- Taxas são consideradas equivalentes quando, aplicadas a um capital durante um mesmo prazo, produzem o mesmo montante no final do período, embora sejam expressas em períodos diferentes.

• Fórmula

•  $i_q = [(1 + i_t)^{\frac{t}{q}} - 1] \times 100$

• Sendo:

- t = períodos de capitalização que tenho
- q = número de períodos de capitalização

- Transformar a taxa de 25% a.a para sua equivalente mensal




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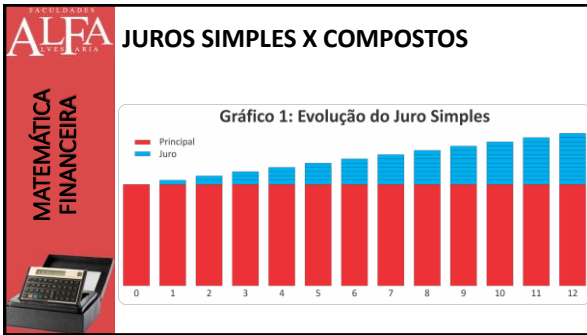
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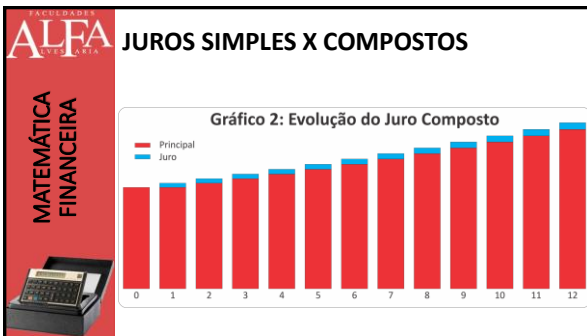
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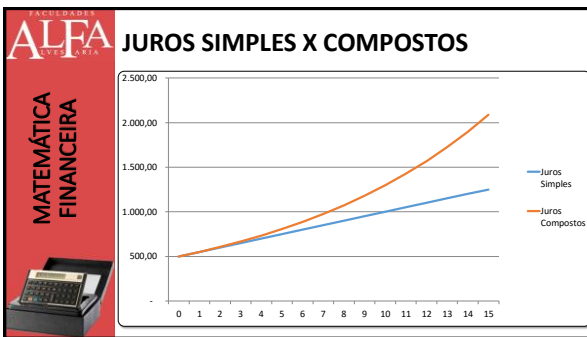
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PRÉCISO DE ALFA

**MATEMÁTICA FINANCEIRA**

**FÓRMULAS APRESENTADAS**

- **Juros Simples**
  - Juros:  $J = PV \times i \times n$
  - Montante:  $FV = PV + \text{juros} \rightarrow FV = PV + (PV \times i \times n) \rightarrow FV = PV(1 + i \times n)$
- **Juros Compostos**
  - Juros:  $J = PV [(1 + i)^n - 1]$  ou  $J = FV - PV$
  - Montante:  $FV = PV(1 + i)^n$
  - Taxa Equivalente:  $i_q = [(1 + i_t)^{\frac{t}{q}} - 1] \times 100$




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**Referências:**

✓ ASSAF NETO, Alexandre. Finanças Corporativas e Valor. 5 ed. São Paulo: Atlas, 2010.






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