Interes { Simple
Compuesto

Interes Simple

P = $100
3 meses
2% mensual

$C \times i \times t$

$\$100 \times 2\% \times 3 = \$6 =$

Devolver $\$100 + 6 = \$106 =$

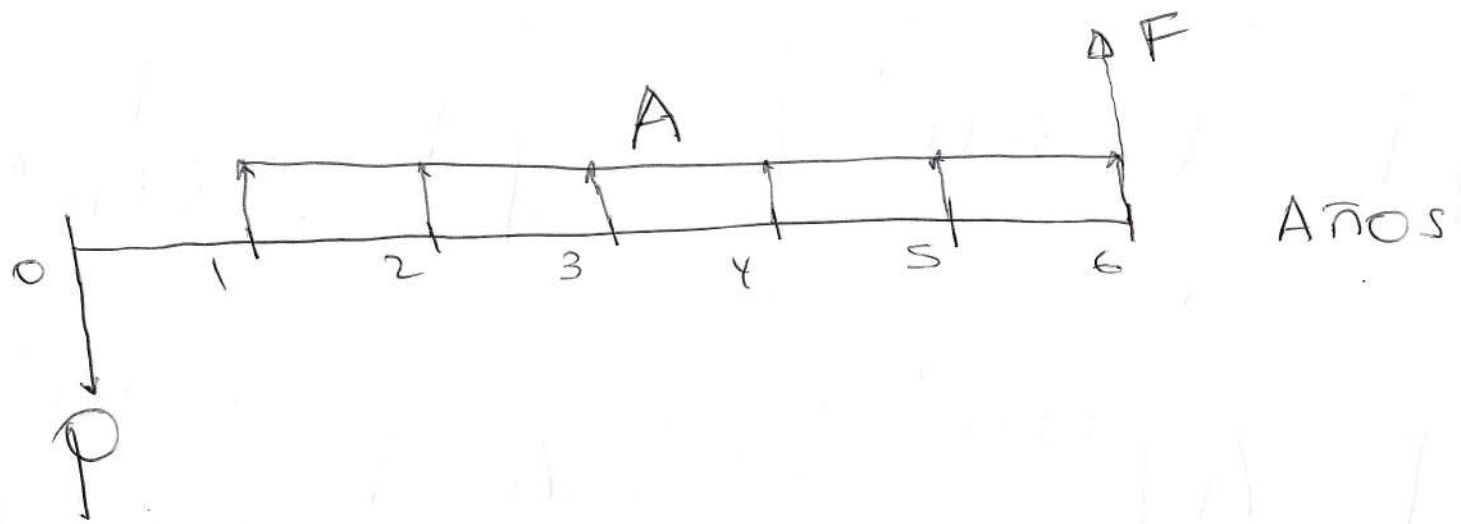
Interés Compuesto

P	SI	INTERES	SF
1	$100	$100 x 2% = $2	$100+2 = $102
2	$102	$102 x 2% = $2.04	$102 + 2.04 = $104.04
3	$104.04	$104.04 x 2% = $2.08	$104.04 + 2.08 = $106.12

P	SI	INTERESES	SF
1	P	Pi	$P + Pi = P(1+i)$
2	$P(1+i)$	$P(1+i)i$	$P(1+i) + P(1+i)i = P(1+i)^2$
3	$P(1+i)^2$	$P(1+i)^2 i$	$P(1+i)^2 + P(1+i)^2 i = \underbrace{P(1+i)^3}_{F}$

$$\boxed{F = P(1+i)^n}$$

3)



$P = ($

$$F = P(1+i)^n$$

$$P = \frac{F}{(1+i)^n}$$

$$F = A\left[\frac{(1+i)^n - 1}{i}\right]$$

$$A = F\left[\frac{i}{(1+i)^n - 1}\right]$$

$$P = A\left[\frac{(1+i)^n - 1}{i(1+i)^n}\right]$$

$$A = P\left[\frac{i(1+i)^n}{(1+i)^n - 1}\right]$$

Interes
- Nominal → 12% nominal anual pag. mes vencido
- Efectivo → 12,36% E.A.
- Periodico → 1% mensual

$100
i: 6% mensual
1 año

S	SI	Intereses	SF
1	$100	$100 x 6% = $6	$100+6 = $106
2	$106	$106 x 6% = $6,36	$106+6,36 = $112,36

$$Ed = \frac{112,36 - 100}{100} = 12,36\%$$

$$i_{ef} = \left(1 + \frac{r}{M}\right)^{M} - 1$$

r: tasa nominal anual

M: Número de periodos en el año

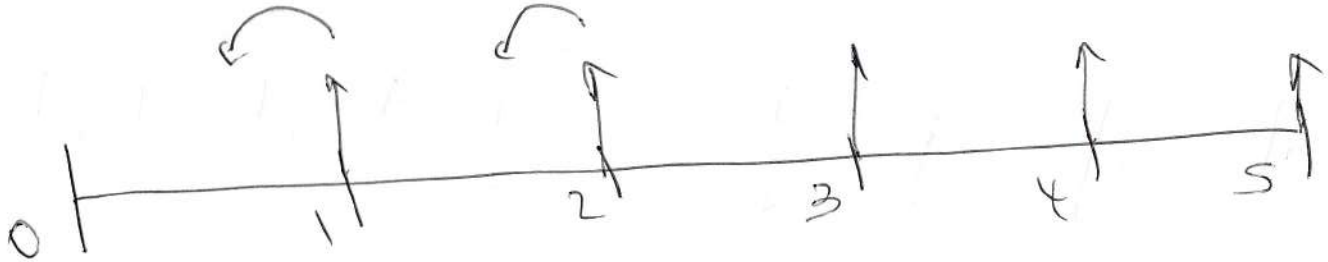
$$i_{ef} = \left(1 + \frac{0.12}{2}\right)^{2} - 1 = 12,36\% \text{ E.A}$$

$$\frac{r}{M} = \sqrt[M]{(1 + i_{ef})} - 1$$

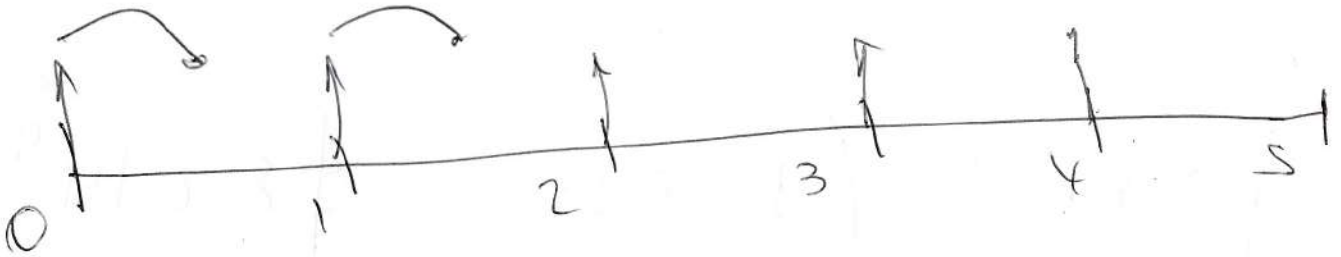
Interés { Anticipado
Vencido

$$i_{vp} = \frac{i_{ap}}{(1 - i_{ap})}$$

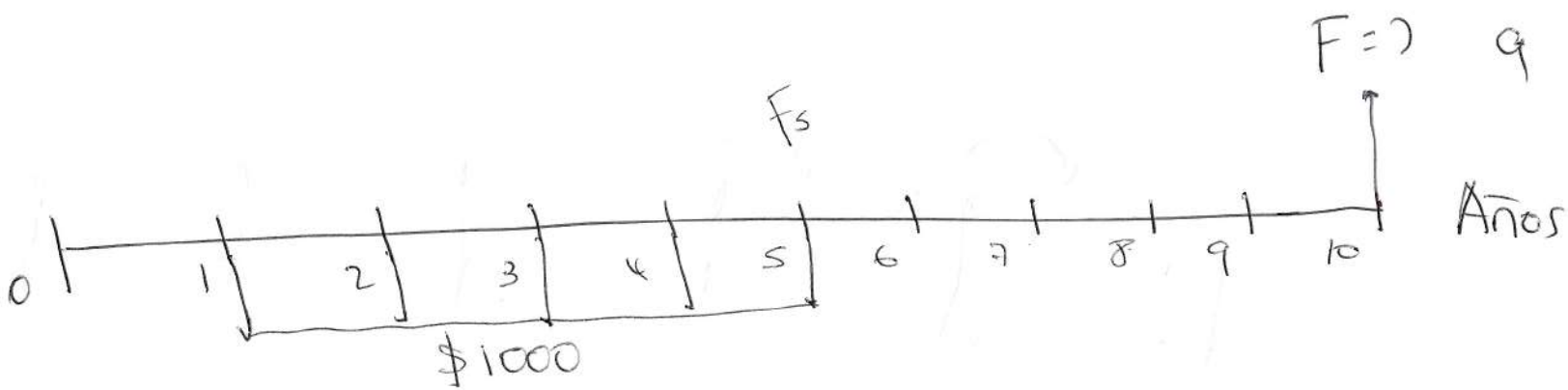
$$i_{ap} = \frac{i_{vp}}{(1 + i_{vp})}$$



Venc



Anticipado



$i = 8\%$ anual

$$F_5 = \$1000\left[\frac{(1+0.08)^5 - 1}{0.08}\right] = \$5.866^{60}$$

$$F = \$5.866^{60}\left(1+0.08\right)^5 = \underline{\$8619^{96}} =$$

1) $\$1000\ (1+0.08)^9 = \$$
2) $\$1000\ (1+0.08)^8 = \$$
3) $\$1000\ (1+0.08)^7 = \$$
4) $\$1000\ (1+0.08)^6 = \$$
5) $\$1000\ (1+0.08)^{-5} = \$$

2) $$Ief = \left(1 + \frac{r}{m}\right)^{m} - 1$$

i = 18% nominal anual capitalizado.

a) Anualmente

$$Ief = \left(1 + \frac{0.18}{1}\right)^{1} - 1 = 18\% \text{ E.A.}$$

b) Semestralmente

$$Ief = \left(1 + \frac{0.18}{2}\right)^{2} - 1 = 18{,}81\% \text{ E.A}$$

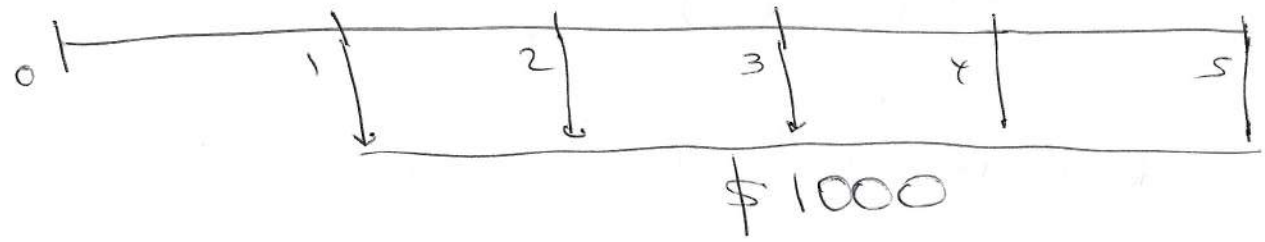
c) Mensualmente

$$Ief = \left(1 + \frac{0.18}{12}\right)^{12} - 1 = 19.56\% \text{ E.A}$$

d) Diario

$$Ief = \left(1 + \frac{0.18}{365}\right)^{365} - 1 = 19.72\% \text{ E.A}$$

3)



$i = 5\%$ semestral

$$i_{ef} = (1 + 0.05)^2 - 1 = 10.25\% \text{ EA}$$

$$F = \$1000 \left[\frac{(1+0.1025)^5 - 1}{0.1025} \right] = \$6.135^{55}$$

4) $i_{ef} = 24\%$ Anual.

a) Mensualmente

$$\frac{r}{M} = \sqrt[12]{(1+0.24)} - 1 = 1{,}8\% \text{ mensual.}$$

b) Anualmente

$$\frac{r}{M} = \sqrt[1]{(1+0.24)} - 1 = 24\%.$$

c) Semestralmente

$$\frac{r}{M} = \sqrt[2]{(1+0.24)} - 1 = 11{,}355\% \text{ semestral}$$