ANEXO 9

EJERCICIOS RESUELTOS (MAYRA RODRÍGUEZ)

Interés simple

1.-¿Cuál es el Interés Simple de un capital de $652 000 con una tasa nominal simple ordinaria del 15% semestral en 5 meses?

I =?	**P = $652,000.00**	**i = 15% semestral**	**n = 5 meses**

$$I = P * i * n$$

$$I = \$652,000.00 * \frac{.15}{6} * 5$$

$$I = \$652,000.00 * .025 * 5$$

$$I = \$81,500.00$$

INTERÉS SIMPLE = $ 81,500.00

2.-¿Qué cantidad genera un capital de $125,000.00 con una tasa nominal simple ordinaria del 22% en 4 meses?

S=?	**P = $125, 000.00**	**i = 22%**	**n = 4 meses**

$$S = P + (P * i * n)$$

$$S = \$125,000.00 + (\$125,000.00 * \frac{.22}{12 * 4})$$

$$S = \$125,000.00 + (\$125,000.00 * .0183333 * 4)$$

$$S = \$125,000.00 + \$9,166.66$$

$$S = \$134,166.66$$

CANTIDAD QUE SE GENERA = $ 134,166. 65

3.-¿Qué cantidad genera un capital de $ 13,553.00 a una tasa del 45% en 10.5 meses?

S =?	P = $13,553.00	i = 45%	n = 10.5 meses

$$S = P + (P * i * n)$$
$$S = \$13,553.00 + \left(\$13,553.00 * 45\% * \frac{10.5}{12}\right)$$
$$S = \$13,553.00 + (45\% * 0.875)$$
$$S = \$13,553.00 + (6098.85 * 0.875)$$
$$S = \$13,553.00 + \$5,336.49$$
$$S = \$18,889.49$$

CANTIDAD QUE SE GENERA = $ 18,889.49

4.-Una casa tiene un valor de $785,550.00 de contado. El Sr. Rogelio Guerra acuerda pagar

$440,000.00 el 30 de septiembre y el resto mediante un único pago de $350,000.00 el 28 de noviembre ¿Cuál es la tasa?

$$\$785,550.00 - \$440,000.00 = \$345,550.00$$
$$\$350,000.00 - \$345,550.00 = \$5,550.00$$

30 de septiembre – 28 de noviembre: 59 días

$$i = \frac{I(360)}{Pt}$$
$$i = \frac{\$5,550.00(360)}{\$345,550.00(59)} = \frac{\$1'998,000.00}{\$20'387,745.00} = 0.980000$$

Tasa= 0.0980000%

COMPROBACIÓN:

$$I = P * i * n$$

$$I = \$345,550.00 * 0.0980000 * (\frac{59}{360})$$

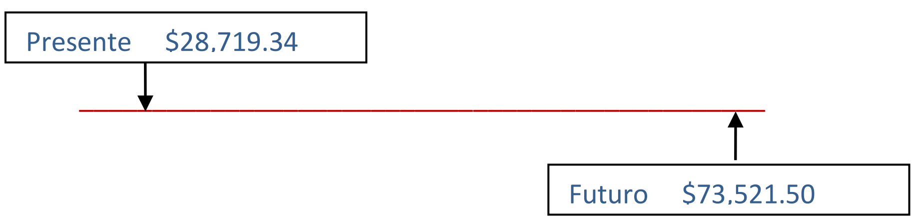
$$I = \$345,550.00 * 0.0980000 * 0.1638888$$

$$I = \$345,550.00 * 0.0160611$$

$$I = \$5,549.91$$

5.-¿Cuál es el valor presente de $73,521.50 con un interés trimestral del 13% en 6 meses?

C (importe a recibir) = $73,521.50	**i = 13% trimestral**	**n = 6 meses**



$$VP = \frac{C}{(1 + in)}$$

$$VP = \frac{\$73,521.50}{(1 + .13 * 2)}$$

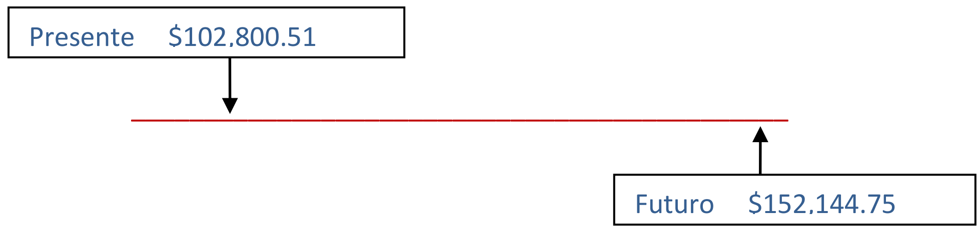
$$VP = \frac{\$73,521.50}{1.26}$$

$$VP = \$58,350.40$$

EL VALOR PRESENTE DE $73,521.50 ES DE $58,350.4

6.-¿Cuál es el valor presente de $152,144.75 con una tasa nominal simple ordinaria del 32% en 18 meses?

C = $152,144.75	**i = 32%**	**n = 18 meses**



$$VP = \frac{C}{(1+in)}$$

$$VP = \frac{\$152,144.75}{\left(1+\left(.32*\frac{18}{12}\right)\right)}$$

$$VP = \frac{\$152,144.75}{(1+(.32*1.5))}$$

$$VP = \frac{\$152,144.75}{1.48}$$

$$VP = \$102,800.51$$

EL VALOR PRESENTE DE $152,144.75 ES $102,800.51

Interés compuesto

7.-¿Cuál es el monto que genera $230 000 con una tasa nominal ordinaria del 14 % capitalizable semestralmente en 5 años?

P = $230,000.00	i= 14%	m= semestral	n=5 años

$$S = P\left(1+\frac{i}{m}\right)^{n}$$

$$S = \$230,000.00 * \left(1+\frac{.14}{2}\right)^{10}$$

$$S = \$230,000.00 * (1+0.07)^{10}$$

$$S = \$230,000.00 * (1.9671513)^{10}$$

$$S = \$452,444.81$$

EL MONTO QUE SE GENERA ES:$452,444.81

8.-REESTRUCTURAR LOS SIGUIENTES PAGOS (INTERÉS SIMPLE):

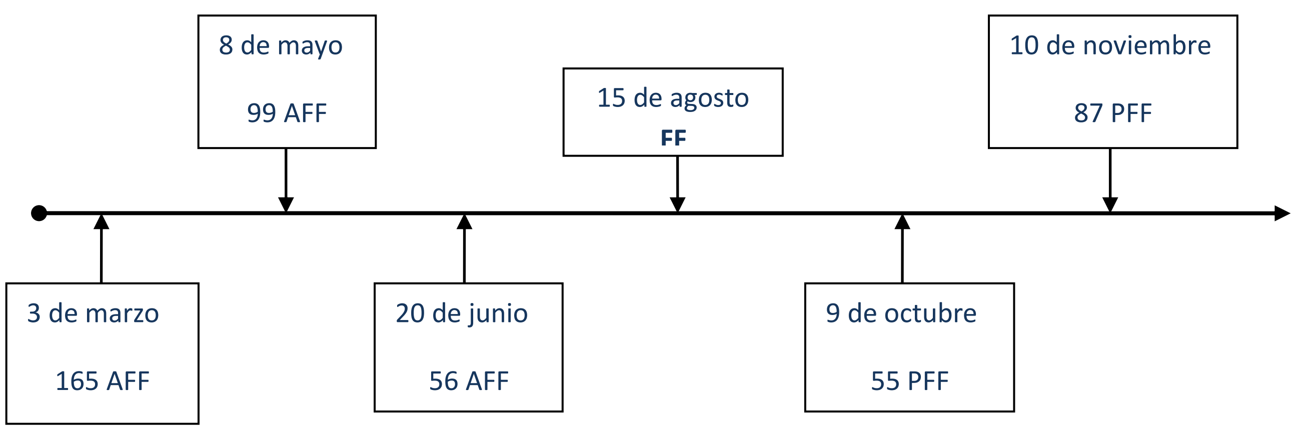
i= 4.5% nominal simple ordinario

V_{EO}:

FECHA	IMPORTE	DIAS
3 DE MARZO	$14,000.00	165 DÍAS AFF
8 DE MAYO	$22,000.00	99 DÍAS AFF
20 DE JUNIO	$72,000.00	56 DÍAS AFF
15 DE AGOSTO	$50,000.00	FF
9 DE OCTUBRE	$35,000.00	55 DÍAS PFF
10 DE NOVIEMBRE	$10,000.00	87 DÍAS PFF

V_{EN} = 6 PAGOS IGUALES

NÚMERO DE PAGO	DÍAS
1	**FF**
2	**30 DÍAS PFF**
3	**50 DÍAS PFF**
4	**65 DÍAS PFF**
5	**80 DÍAS PFF**
6	**92 DÍAS PFF**



$$V_{EO} = \sum_{1=n}^{t} S_{aff}(1+\text{in}) + S_{ff} + \sum_{1=n}^{t} \frac{S_{pff}}{1+in}$$

$$V_{EO} = \$14,000.00 + \left(1+(\frac{.045}{12}*\frac{165}{30})\right) + \$22.000.00\left(1+(\frac{.045}{12}*\frac{99}{30})\right) + \$72,000.00\left(1+(\frac{.045}{12}*\frac{56}{30})\right) + \$50,000.00 + ...$$

$$... + \frac{\$35,000.00}{1+(\frac{.045}{12}*\frac{55}{30})} + \frac{\$100,000.00}{1+(\frac{.045}{12}*\frac{87}{30})}$$

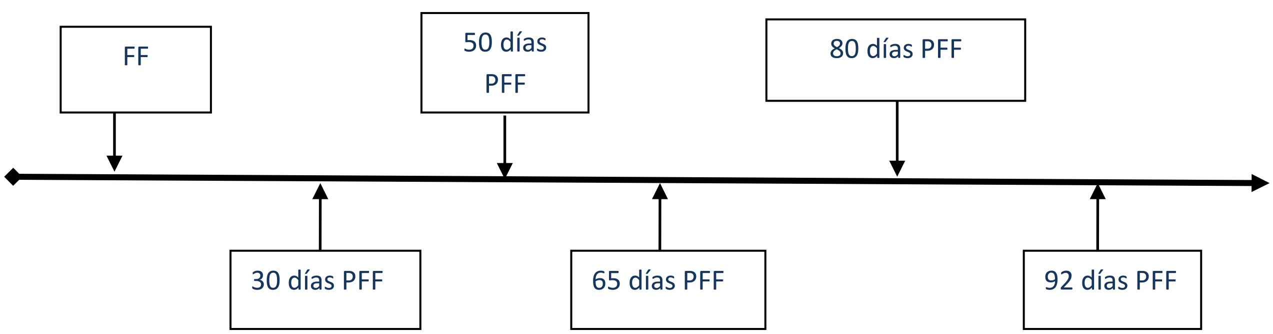
$$VEO = \$14,000.00(.1+(.00375*5.5) + \$22,000.00\left(1+(.00375*3.3)\right) + \$72,000.00\left(1+(.00375*1.8666666)\right)...$$

$$+\$50,000.00 + \frac{\$35,000.00}{1+\left(.0035*1.8333333\right)} + \frac{\$10,000.00}{1+\left(.00375*2.9\right)}$$

$$VEO = \$14,000.00(1.020625) + \$22,000.00(1.012375) + \$72,000.00(1.0069999) + \$50,000.00 + \frac{\$35,000.00}{1.0068749} + \frac{\$10,000.00}{1.010875}$$

$$VEO = \$14,288.75 + \$22,272.25 + \$72,503.99 + \$50,000.00 + \$34,761.02 + \$9,892.42$$

$$VEO = \$203,718.43$$



$$V_{EN} = \sum_{1=n}^{t} 1_{aff}(1+\text{in}) + 1_{ff} + \sum_{1=n}^{t} \frac{1_{pff}}{1+in}$$

$$V_{EN=}1+\frac{1}{1+(\frac{.045}{12}*\frac{30}{30})}+\frac{1}{1+(\frac{.045}{12}*\frac{50}{30})}+\frac{1}{1+(\frac{.045}{12}*\frac{65}{30})}+\frac{1}{1+(\frac{.045}{12}*\frac{80}{30})}+\frac{1}{1+(\frac{.045}{12}*\frac{92}{30})}$$

$$V_{EN}=1+\frac{1}{1.00375}+\frac{1}{1+(.00375*1.6666666)}+\frac{1}{1+(.00375*2.1666666)}+...$$

$$...+\frac{1}{1+(.00375*2.6666666)}+\frac{1}{1+(.00375*3.0666666)}$$

$$V_{EN}=1+0.9962640+\frac{1}{1.0062499}+\frac{1}{1.0081249}+\frac{1}{1.0099999}+\frac{1}{1.0114999}$$

$$V_{EN}=1+0.9962640+0.993889+0.9919405+0.9900991+0.9886308$$

$$V_{EN}=5.9607233$$

$$Y=\frac{V_{EO}}{V_{EN}}=\frac{\$203,718.43}{5.9607253}=\$34,176.79$$

VALOR DE CADA PAGO CON EL NUEVO ESQUEMA: $34,176.79

9.-CON LOS DATOS DEL PROBLEMA ANTERIOR REESTRUCTURAR LOS PAGOS MEDIANTE INTERÉS COMPUESTO:

i= 4.5%

m= bimestral

FECHA	IMPORTE	DIAS
3 DE MARZO	$14,000.00	165 DÍAS AFF
8 DE MAYO	$22,000.00	99 DÍAS AFF
20 DE JUNIO	$72,000.00	56 DÍAS AFF
15 DE AGOSTO	$50,000.00	FF
9 DE OCTUBRE	$35,000.00	55 DÍAS PFF
10 DE NOVIEMBRE	$10,000.00	87 DÍAS PFF

NÚMERO DE PAGO	DÍAS
1	**FF**
2	**30 DÍAS PFF**
3	**50 DÍAS PFF**
4	**65 DÍAS PFF**
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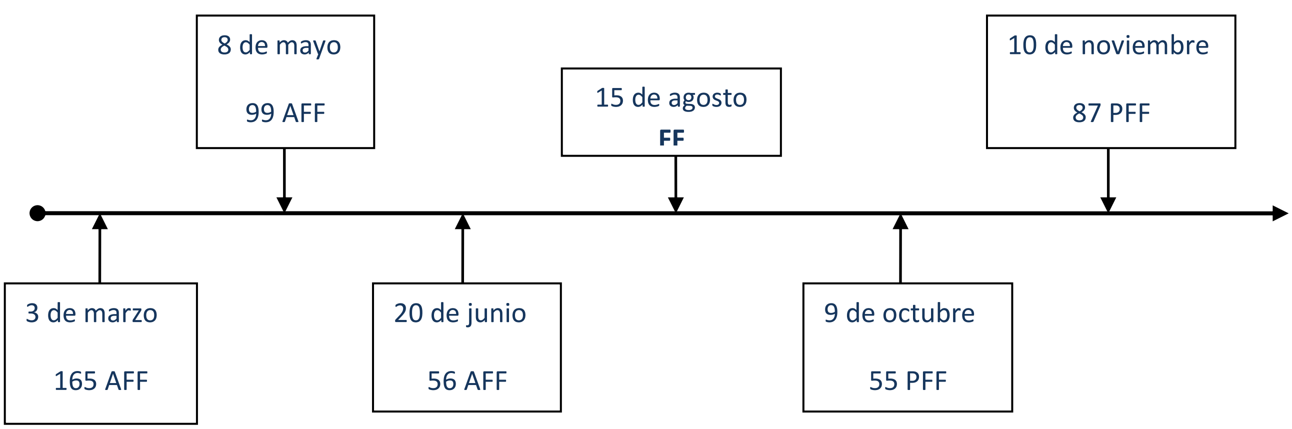
6	**92 DÍAS PFF**



$$V_{EO} = \sum_{1=n}^{t} S_{aff}(1+i)^{n} + S_{ff} + \sum_{1=n}^{t} \frac{S_{pff}}{(1+i)^{n}}$$

$$V_{EO=}\$14,000.00\left(1+\frac{.045}{6}\right)^{\frac{165}{60}}+\$22,000.00\left(1+\frac{.045}{6}\right)^{\frac{99}{60}}+\$72,000.00\left(1+\frac{.045}{6}\right)^{\frac{56}{60}}+\ldots$$

$$\ldots+\$50,000.00+\frac{\$35,000.00}{\left(1+\frac{.045}{12}\right)^{\frac{55}{60}}}+\frac{\$10,000.00}{\left(1+\frac{.045}{12}\right)^{\frac{87}{60}}}$$

$$V_{EO}=\$14,000.00\left(1+\frac{.045}{6}\right)^{2.75}+\$22,000.00\left(1+\frac{.045}{6}\right)^{1.65}+\$72,000.00\left(1+\frac{.045}{6}\right)^{0.9333333}+\ldots$$

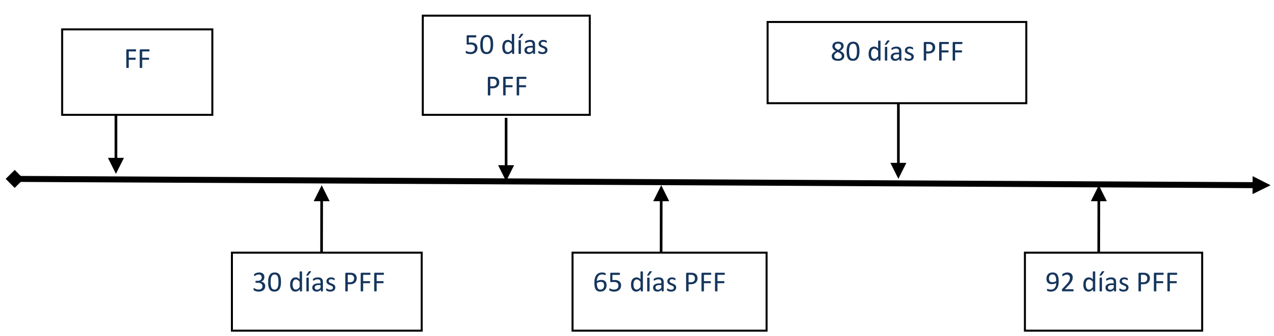
$$\ldots+\$50,000.00+\frac{\$35,000.00}{\left(1+\frac{.045}{12}\right)^{0.9166666}}+\frac{\$10,000.00}{\left(1+\frac{.045}{12}\right)^{1.45}}$$

$$V_{EO}=\$14,000.00(1.0207606)+\$22,000.00(1.0124051)+\$72,000.00(1.0069982)+\ldots$$

$$\ldots+\$50,000.00+\frac{\$35,000.00}{1.0068728}+\frac{\$10,000.00}{1.0108933}$$

$$V_{EO}=\$14,290.65+\$22,272.91+\$72,503.87+\$50,000.00+\$19,370.48+\$9,892.24$$

$$V_{EO}=\$188,330.15$$



$$VEN=\sum_{1=n}^{t}1_{aff}(1+i)^{n}+1_{ff}+\sum_{1=n}^{t}\frac{1_{pff}}{(1+i)^{n}}$$

$$V_{EN} = 1 + \left(\frac{1}{1.0075}\right)^{\frac{30}{60}} + \left(\frac{1}{1.0075}\right)^{\frac{50}{60}} + \left(\frac{1}{1.0075}\right)^{\frac{65}{60}} + \left(\frac{1}{1.0075}\right)^{\frac{80}{60}} + \left(\frac{1}{1.0075}\right)^{\frac{92}{60}}$$

$$V_{EN} = 1 + \left(\frac{1}{1.0075}\right)^{0.5} + \left(\frac{1}{1.0075}\right)^{0.8333333} + \left(\frac{1}{1.0075}\right)^{1.0833333} + \left(\frac{1}{1.0075}\right)^{1.3333333} + \left(\frac{1}{1.0075}\right)^{1.5333333}$$

$$V_{EN} = 1 + \left(\frac{1}{1.0037429}\right) + \left(\frac{1}{1.0062461}\right) + \left(\frac{1}{1.0081275}\right) + \left(\frac{1}{1.0100124}\right) + \left(\frac{1}{1.0115229}\right)$$

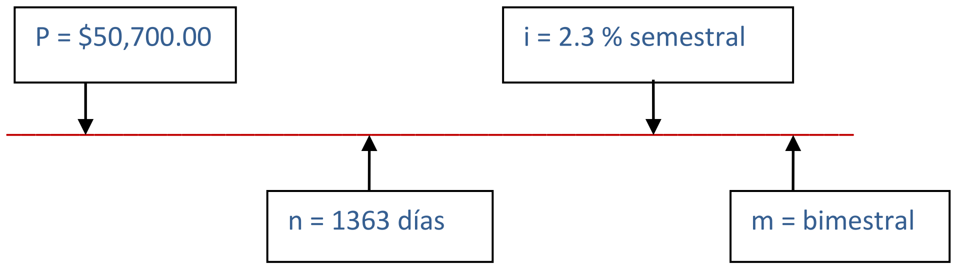
$$V_{EN} = 1 + 0.996271 + 0.9937926 + 0.9919380 + 0.990868 + 0.9886083$$
$$V_{EN} = 5.9606967$$

$$Y = \frac{V_{EO}}{V_{EN}} = \frac{\$188,330.15}{5.9606967} = \$31,595.33$$

VALOR DE CADA PAGO CON EL NUEVO ESQUEMA: $31,595.33

10.-Dulce María invierte $50,700.00 en el Banco HSBWC a una tasa semestral del 2.3% capitalizable bimestralmente. Lo invertirá en 1,363 días, debido a que el día siguiente lo ocupará porque se irá de vacaciones a Cancún.

- **Además Dulce María quisiera saber: ¿En qué tiempo obtendrá 4.5 veces su valor?**



N = 4.5 S_1 = ¿? S_2 = ¿?

$$S_1 = P\left(1+\frac{i}{m}\right)^n$$

$$S_1 = \$50,700.00*\left(1+\frac{.023}{3}\right)^{\frac{1363}{60}}$$

$$S_1 = \$50,700.00*\left(1+\frac{.023}{3}\right)^{22.7166666}$$

$$S_1 = \$50,700.00*(1+0.0076666)^{22.7166666}$$

$$S_1 = \$50,700.00*(1.189456977)$$

$$S_1 = \$60,305.46$$

Para que su valor sea de 4.5 veces, tenemos ahora que:

$$n = \frac{\log(4.5)}{\log(1.0076666)} = \frac{0.65321251}{0.00331689} = 196.9352603$$

Comprobación:

$$S_2 = S_1 * (1+i)^n$$

$$S_2 = \$60,305.46 * (1.0076666)^{196.9352603.}$$

$$S_2 = \$60,305.46 * (4.5000000)$$

$$S_2 = \$271,374.57$$

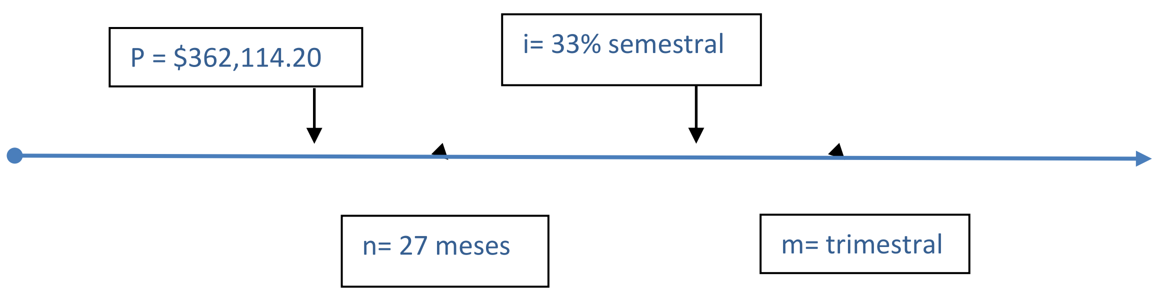
<u>S_1 = $60,305.46</u>

<u>S_2 = $271,374.57</u>

Que es lo mismo que. **<u>$60,305.46 + $60,305.46 + $60,305.46 + $60,305.46+ ($60,305.46/2)=$271,374.57</u>**

11.-OBTENER LOS MONTOS DE ACUERDO CON LOS SIGUIENTES DATOS:

Calcular S_1 y posteriormente llevar a N_1 y N_2 la cantidad obtenida de S_1 para obtener S_2 y S_3



Convertir N_1 = 3.7 veces　Convertir N_2 = 8.4 veces　S_1= ¿?　S_2 = ¿?　S_3 = ¿?

Calcular S_1

Para S_1 tenemos que:

$$S_1 = P\left(1+\frac{i}{m}\right)^n$$

$$S_1 = \$362,114.20 * \left(1+\frac{.33}{2}\right)^{\frac{27}{6}}$$

$$S_1 = \$362,114.20 * (1+0.165)^{4.5}$$

$$S_1 = \$362,114.20 * (1.988230191)$$

$$S_1 = \$719,966.38$$

Si S_1=$719,966.38 y se desea transformar en 3.7 veces es = $2’663,875.61

Ahora convertir con la fórmula N_1 = 3.7 veces

$$n_1 = \frac{\log(3.7)}{\log(1.165)} = \frac{0.5682017}{0.06632593} = 8.56681186$$

$$comprobación\_para\_S_2$$

$$S_2 = S_1 * \left(1+\frac{i}{m}\right)^n$$

$$S_2 = \$719,966.38 * (1.165)^{8.56681186}$$

$$S_2 = \$719,966.38 * (3.70000000)$$

$$S_2 = \$2'663,875.61$$

Si S_1=$719,966.38 y se desea transformar en 8.4 veces es = $6’047,717.59

Ahora convertir con la fórmula N_2 = 8.4 veces

$$n = \frac{\log(8.4)}{\log(1.165)} = \frac{0.92427929}{0.06632593} = 13.9354149$$

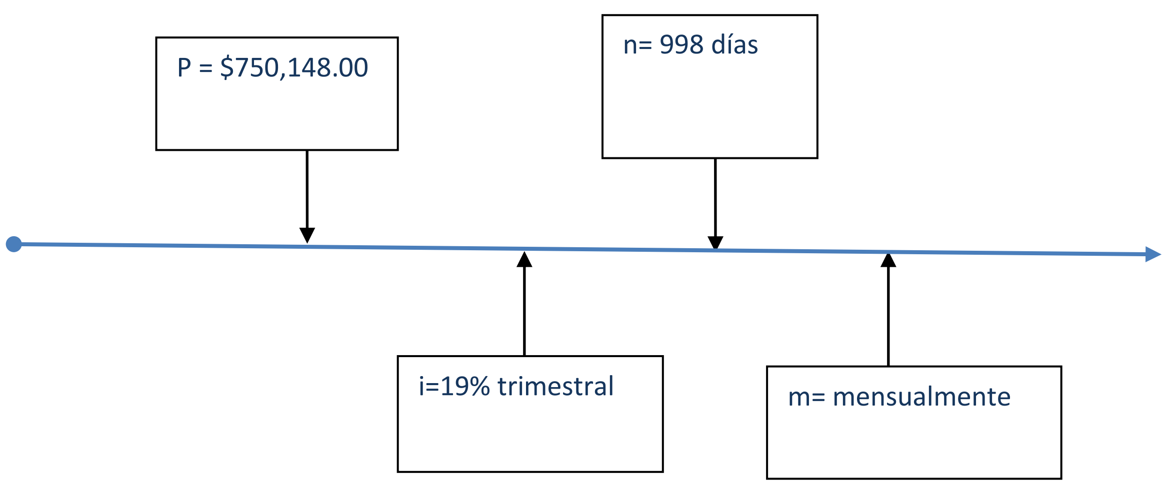
$$S_3 == \$719,966.38 * (1.165)^{13.9354149}$$

$$S_3 == \$719,966.38 * (8.4000000)$$

$$S_3 = \$6'047,717.59$$

S_1 = $719 966.38
S_2= $2’663,875.61
S_3 = $6’047,717.59

12.-OBTENER LOS MONTOS QUE SE PIDEN DE ACUERDO CON LOS SIGUIENTES DATOS:



N_1=2.8 veces N_2 =7.6 veces S_1 = ¿? S_2 = ¿? S_3 = ¿?

$$S_1 = P * \left(1 + \frac{i}{m}\right)^n$$

$$S_1 = \$750,148.00 * (1 + .19/3)^{998/30}$$

$$S_1 = \$750,148.00 * (1 + .19/3)^{33.26666666}$$

$$S_1 = \$750,148.00 * (1 + 0.06333333)^{33.26666666}$$

$$S_1 = \$750,148.00 * (1.06333333)^{33.26666666}$$

$$S_1 = \$750148 * (7.7126378)$$

$$S_1 = \$5'785,619.83$$

Si S_1=\$5'785,619.83 y se desea transformar en 2.8 veces es = \$16'199,735.52

$$n_1 = \frac{\log(2.8)}{\log(1.0633333)} = \frac{0.44715803}{0.02666943} = 16.7666906$$

entonces

$$S_2 = S_1 * \left(1 + \frac{i}{m}\right)^n$$

$$S_2 = \$5'785,619.83 * (1.06333333)^{16.7666906}$$

$$S_2 = \$5'785,619.83 * (2.80000000)$$

$$S_2 = \$16'199,735.52$$

Si S_1=\$5'785,619.83 y se desea transformar en 7.6 veces es = \$43'970,710.71

También se puede tomar S_2

$$n_2 = \frac{\log(7.6)}{\log(1.0633333)} = \frac{0.88081359}{0.02666943} = 33.02709102$$

$$S_3 = S_1 * \left(1 + \frac{i}{m}\right)^n$$

$$S_3 = \$5'785,619.83 * (1.0633333)^{33.02709102}$$

$$S_3 = \$5'785,619.83 * (7.599999)$$

$$S_3 = \$43'970,669.73$$

S_1 = \$5'785,619.83

S_2 = \$16'199,735.52

S_3 = \$43'970,669.73

13.-El Sr. Ramírez acordó liquidar previamente un crédito con el Banco BANORTAZO habiendo firmado los siguientes:

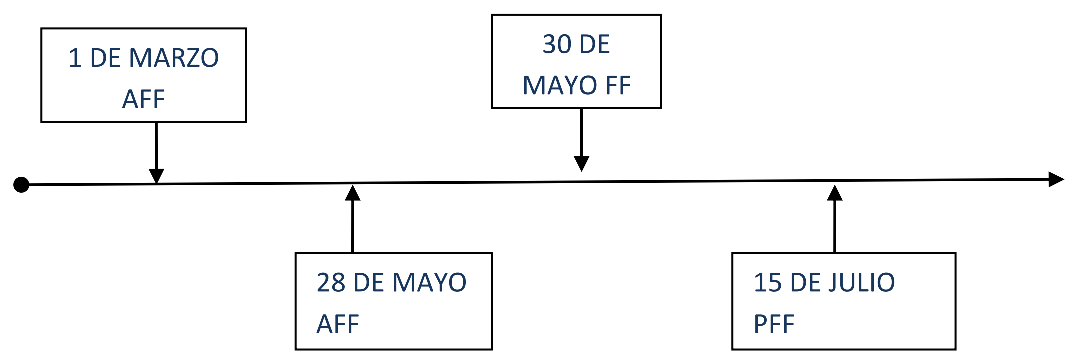
PAGARÉS	FECHA DE VENCIMIENTO
$3,000.00	1 DE MARZO
$20.000.00	28 DE MAYO
$15,000.00	15 DE JULIO

Debido a que el Sr. Ramírez no cuenta con los suficientes ingresos para saldar los pagarés acuerda con el Banco reestructurar la deuda de la manera siguiente:

NÚMERO DE PAGO	MONTO	FECHA
1	$3,000.00	28 mayo
2		13 de julio
3	$15,000.00	25 de julio

L a fecha focal se acordó será el 30 de mayo.

Se manejará una tasa del 20% capitalizable cada 13 días.



$$V_{EO} = \sum_{1=n}^{t} S_{aff}(1+i)^{n} + S_{ff} + \sum_{1=n}^{t} \frac{S_{pff}}{(1+i)^{n}}$$

$$V_{EO} = \$3,000.00 * \left(1 + \left(\frac{.20}{360} * 13\right)\right)^{\frac{90}{13}} + \$20,000.00 * \left(1 + \left(\frac{.20}{360} * 13\right)\right)^{\frac{2}{13}} + \ldots$$

$$\ldots + \frac{\$15,000.00}{1 + \left(\frac{.20}{360} * 13\right)^{\frac{46}{13}}}$$

$$V_{EO} = \$3,000.00 * \left(1 + \left(\frac{.20}{360} * 13\right)\right)^{6.9230769} + \$20,000.00 * \left(1 + \left(\frac{.20}{360} * 13\right)\right)^{0.1538461} + \ldots$$

$$\ldots + \frac{\$15,000.00}{1 + \left(\frac{.20}{360} * 13\right)^{3.5384153}}$$

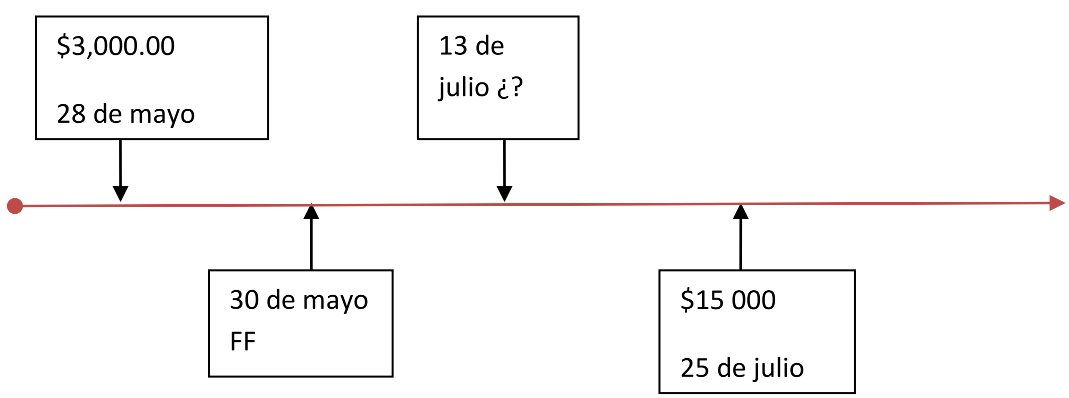
$$V_{EO} = \$3,000.00 * \left(1.0072222\right)^{6.9230769} + \$20,000.00 * \left(1.0072222\right)^{0.1538461} + \ldots$$

$$\ldots + \frac{\$15,000.00}{(1.0072222)^{3.5384153}}$$

$$V_{EO} = \$3,000.00\left(1,0510820\right) + \$20,000.00\left(1.001107\right) + \frac{\$15,000.00}{1.0257902}$$

$$V_{EO} = \$3,153.25 + \$20,022.14 + \$14,622.87$$

$$V_{EO} = \$37,798.26$$



$$V_{EN} = \sum_{1=n}^{t} 1_{aff}(1+i)^{n} + 1_{ff} + \sum_{1=n}^{t} \frac{1_{pff}}{(1+i)^{n}}$$

$$V_{EN} = \$3,000.00(1.0072222)^{\frac{2}{13}} + \frac{S_2}{(1.0072222)^{\frac{44}{13}}} + \frac{\$15,000.00}{(1.0072222)^{\frac{56}{13}}}$$

$$V_{EN} = \$3,000.00(1.0072222)^{0.1538461} + \frac{S_2}{(1.0072222)^{3.3846153}} + \frac{\$15,000.00}{(1.0072222)^{4.3076923}}$$

$$V_{EN} = \$3,000.00(1.0011077) + \frac{S_2}{(1.0246555)} + \frac{\$15,000.00}{(1.0314846)}$$

$$V_{EN} = \$3,003.32 + \frac{S_2}{1.0246555} + 14,542.15$$

Entonces: ¿Cuál es el valor del pagaré del 13 de julio?

$$S_2 = \frac{V_{EO} - (S_1 + S_3)}{1.0246555}$$

$$S_2 = \frac{\$37,798.26 - (\$3,003.32 + \$14,542.15)}{(1.0246555)}$$

$$S_2 = \frac{(\$37,798.26 - \$17,545.47)}{1.0246555}$$

$$S_2 = \frac{\$20,252.79}{1.0246555}$$

$$S_2 = \$19,765.46$$

EL VALOR DEL SEGUNDO PAGARÉ ES DE: $19,765.46

14.-Con los siguientes datos resolver lo siguiente:

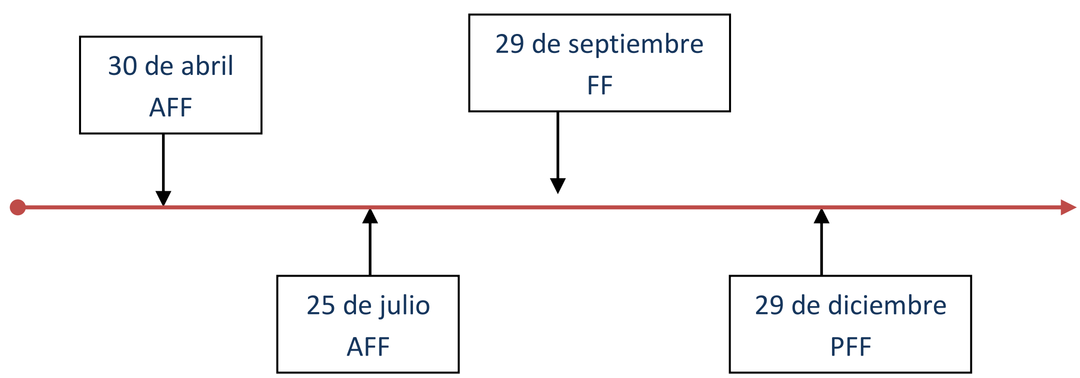
PAGARÉS	FECHA DE VENCIMIENTO
$18,000.00	30 de abril
$30,000.00	25 de julio
$15,000.00	29 de septiembre
$25,000.00	29 de diciembre

Se reestructurarán los pagos de la siguiente manera:

NÚMERO DE PAGO	MONTO	FECHA
1	$18,000.00	25 de julio
2	$30,000.00	8 de agosto
3	¿?	30 de septiembre
4	$15,000.00	24 de octubre

Se estableció El 25 de julio como fecha focal

Tasa bimestral del 12% con una capitalización mensual.



$$V_{EO}=\sum_{1=n}^{t} S_{aff}(1+i)^{n}+S_{ff}+\sum_{1=n}^{t}\frac{S_{pff}}{(1+i)^{n}}$$

$$V_{EO}=\$18,000.00*\left(1+\frac{.12}{2}\right)^{\frac{152}{30}}+\$30,000.00*\left(1+\frac{.12}{2}\right)^{\frac{66}{30}}+\$15,000.00+\ldots$$

$$\ldots+\frac{\$25,000.00}{\left(1+\frac{.12}{2}\right)^{\frac{91}{30}}}$$

$$V_{EO}=\$18,000.00*\left(1+\frac{.12}{2}\right)^{5.0666666}+\$30,000.00*\left(1+\frac{.12}{2}\right)^{2.2}+\$15,000.00+\ldots$$

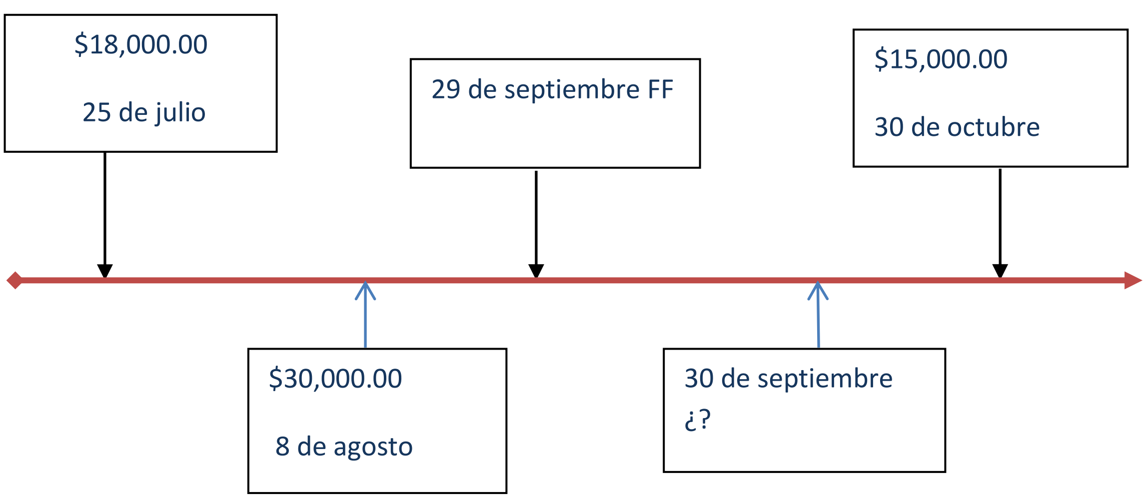
$$\ldots+\frac{\$25,000.00}{\left(1+\frac{.12}{2}\right)^{3.0333333}}$$

$$V_{EO}=\$18,000.00(1.06)^{5.0666666}+\$30,000.00(1.06)^{2.2}+\$15,000.00+\frac{\$25,000.00}{(1.06)^{3.0333333}}$$

$$V_{EO}=\$18,000.00(1.3434341)+\$30,000.00(1.1367707)+\$15,000.00+\$\frac{25,000.00}{1.1933315}$$

$$V_{EO}=\$24,181.81+\$34,103.12+\$15,000.00+\$20,949.75$$

$$V_{EO}=\$94,234.68$$



$$V_{EN}=\sum_{1=n}^{t}1_{aff}(1+i)^{n}+1_{ff}+\sum_{1=n}^{t}\frac{1_{pff}}{(1+i)^{n}}$$

$$V_{EO} = \$18,000.00 * \left(1+\frac{.12}{2}\right)^{\frac{66}{30}} + \$30,000.00 * \left(1+\frac{.12}{2}\right)^{\frac{52}{30}} + \frac{S_3}{\frac{1}{(1.12)^{\frac{1}{30}}}} + \ldots$$

$$\ldots + \frac{\$15,000.00}{\left(1+\frac{.12}{2}\right)^{\frac{16}{30}}}$$

$$V_{EN} = \$18,000.00 * (1.06)^{\frac{66}{30}} + \$30,000.00 (1.06)^{\frac{52}{30}} + \frac{S3}{\frac{1}{(1.06)^{\frac{1}{30}}}} + \frac{\$15,000.00}{(1.06)^{\frac{16}{30}}}$$

$$V_{EN} = \$18,000.00 * (1.06)^{2.2} + \$30,000.00 (1.06)^{1.7333333} + \frac{S_3}{\frac{1}{(1.06)^{0.0333333}}} + \frac{\$15,000.00}{(1.06)^{0.5333333}}$$

$$V_{EN} = \$18,000.00 (1.136770785) + \$30,000.00 (1.106276021) + \frac{S_3}{\frac{1}{(1.001944182)}} + \frac{\$15,000.00}{1.031564672}$$

$$VEN = \$20,461.87 + \$33,188.28 + \frac{S_3}{0.998059591} + \$14,541.02$$

¿Cuál es el valor del tercer pago?

$$S_3 = \frac{(VEO - (S_1 + S_2 + S_4))}{0.998059591}$$

$$S_3 = \frac{(\$94,234.68 - (\$20,461.87 + \$33,188.28 + \$14,541.02))}{0.998059591}$$

$$S_3 = \frac{(\$94,234.68 - \$68,191.17)}{0.998059591}$$

$$S_3 = \frac{\$26,043.51}{0.998059591}$$

$$S_3 = \$26,094.14$$

EL VALOR DEL TERCER PAGO ES: $26,094.14