

FORMULAS Y EJEMPLOS EXPLICATIVOS

CASO 1: Cliente quiere sacar un crédito PYME de S/10,000 por 18 meses. Con una TEA de 40%. El cliente pagará todos los días 19 de cada mes. Se desea conocer la cuota a pagar del cliente.

TEA (i): 40.00%

Capital (k): 10,000

Cuotas (n): 18

Frecuencia (f): 30 días

Seguro Desgravamen (tsd): 0.045%

1. Calcular la tasa diaria.

$$\text{Tasa Diaria (td)} = (1 + i/100)^{\frac{1}{360}} - 1$$

$$\text{Tasa Diaria (td)} = (1 + 40/100)^{\frac{1}{360}} - 1$$

$$\text{Tasa Diaria (td)} = 0.0009351$$

2. Determinar fechas de cuotas.

	Fecha
	19/09/17
1	19/10/17
2	19/11/17
3	19/12/17
4	19/01/18
5	19/02/18
6	19/03/18
7	19/04/18
8	19/05/18
9	19/06/18
10	19/07/18
11	19/08/18
12	19/09/18
13	19/10/18
14	19/11/18
15	19/12/18
16	19/01/19
17	19/02/19
18	19/03/19

3. Calcular días entre cuotas.

$$\text{Dias}_n = \text{Fecha Cuota}_n - \text{Fecha cuota}_{n-1}$$

	Fecha	Dias
	19/09/17	
1	19/10/17	30
2	19/11/17	31
3	19/12/17	30
4	19/01/18	31
5	19/02/18	31
6	19/03/18	28
7	19/04/18	31
8	19/05/18	30
9	19/06/18	31
10	19/07/18	30
11	19/08/18	31
12	19/09/18	31
13	19/10/18	30
14	19/11/18	31
15	19/12/18	30
16	19/01/19	31
17	19/02/19	31
18	19/03/19	28

4. Calcular periodos mensuales entre cuotas.

$$\text{Periodos} = (\text{Año (Fecha Cuota } n) - \text{Año (Fecha cuota } n-1)) * 12 \\ + (\text{Mes (Fecha Cuota } n) - \text{Mes (Fecha cuota } n-1))$$

	Fecha	Días	Periodos
	19/09/17		
1	19/10/17	30	1
2	19/11/17	31	1
3	19/12/17	30	1
4	19/01/18	31	1
5	19/02/18	31	1
6	19/03/18	28	1
7	19/04/18	31	1
8	19/05/18	30	1
9	19/06/18	31	1
10	19/07/18	30	1
11	19/08/18	31	1
12	19/09/18	31	1
13	19/10/18	30	1
14	19/11/18	31	1
15	19/12/18	30	1
16	19/01/19	31	1
17	19/02/19	31	1
18	19/03/19	28	1

5. Obtener la tasa efectiva por cuota.

$$\text{Tasa Efectiva } n (te) = (1 + td_n)^{dian_n} - 1$$

	Fecha	Días	Periodos	Tasa Efectiva
	19/09/17			
1	19/10/17	30	1	0.02843609
2	19/11/17	31	1	0.02939776
3	19/12/17	30	1	0.02843609
4	19/01/18	31	1	0.02939776
5	19/02/18	31	1	0.02939776
6	19/03/18	28	1	0.02651545
7	19/04/18	31	1	0.02939776
8	19/05/18	30	1	0.02843609
9	19/06/18	31	1	0.02939776
10	19/07/18	30	1	0.02843609
11	19/08/18	31	1	0.02939776
12	19/09/18	31	1	0.02939776
13	19/10/18	30	1	0.02843609
14	19/11/18	31	1	0.02939776
15	19/12/18	30	1	0.02843609
16	19/01/19	31	1	0.02939776
17	19/02/19	31	1	0.02939776
18	19/03/19	28	1	0.02651545

6. Fórmulas para obtener el interés compensatorio y seguro desgravamen.

- a. Interés Compensatorio Cuota

$$\text{Interés Compensatorio } n (ic) = \text{Saldo Capital } n * te_n$$

- b. Seguro Desgravamen Cuota

$$\text{Seguro Desgravamen } n (sd) = \text{Saldo Capital } n * tsd / 100 * periodos_n$$

7. Cálculo para obtener el monto de la cuota.

a. Determinación del intervalo inicial (25 iteraciones)

- i. Primero, determinar la cuota inicial dividiendo el capital entre el número de cuotas.

$$\text{Cuota} = 10,000 / 18 = 555.56$$

Aplicar la cuota y calcular el capital, interés compensatorio y seguro desgravamen por cada cuota.

$$\text{Capital}_n = \text{Cuota}_n - \text{Interés}_n - \text{Seguro Desgravamen}_n$$

$$\text{Saldo Capital}_n = \text{Saldo Capital}_{n-1} - \text{Capital}_{n-1}$$

	Fecha	Días	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Interes	Seg. Desgrav.	Capital
	19/09/17								
1	19/10/17	30	1	0.02843609	555.56	10,000.00	284.36	4.50	266.70
2	19/11/17	31	1	0.02939776	555.56	9,733.30	286.14	4.38	265.04
3	19/12/17	30	1	0.02843609	555.56	9,468.26	269.24	4.26	282.06
4	19/01/18	31	1	0.02939776	555.56	9,186.20	270.05	4.13	281.38
5	19/02/18	31	1	0.02939776	555.56	8,904.82	261.78	4.01	289.77
6	19/03/18	28	1	0.02651545	555.56	8,615.05	228.43	3.88	323.25
7	19/04/18	31	1	0.02939776	555.56	8,291.80	243.76	3.73	308.07
8	19/05/18	30	1	0.02843609	555.56	7,983.73	227.03	3.59	324.94
9	19/06/18	31	1	0.02939776	555.56	7,658.79	225.15	3.45	326.96
10	19/07/18	30	1	0.02843609	555.56	7,331.83	208.49	3.30	343.77
11	19/08/18	31	1	0.02939776	555.56	6,988.06	205.43	3.14	346.99
12	19/09/18	31	1	0.02939776	555.56	6,641.07	195.23	2.99	357.34
13	19/10/18	30	1	0.02843609	555.56	6,283.73	178.68	2.83	374.05
14	19/11/18	31	1	0.02939776	555.56	5,909.68	173.73	2.66	379.17
15	19/12/18	30	1	0.02843609	555.56	5,530.51	157.27	2.49	395.80
16	19/01/19	31	1	0.02939776	555.56	5,134.71	150.95	2.31	402.30
17	19/02/19	31	1	0.02939776	555.56	4,732.41	139.12	2.13	414.31
18	19/03/19	28	1	0.02651545	555.56	4,318.10	114.50	1.94	439.12
						3,878.98			

- ii. Verificar saldo capital, para obtener valor de nueva cuota, si es mayor a cero, multiplicar la cuota por 1.5; si es menor que cero, multiplicar la cuota por 0.75.

$$\text{Saldo Capital} = 3,878.98 (> 0)$$

$$\text{Cuota}_n = \text{Cuota}_{n-1} * 1.5 =$$

$$\text{Cuota} = 555.56 * 1.5 = 833.34$$

Aplicar la cuota y calcular el capital, interés compensatorio y seguro desgravamen por cada cuota.

	Fecha	Días	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Interes	Seg. Desgrav.	Capital
	19/09/17								
1	19/10/17	30	1	0.02843609	833.34	10,000.00	284.36	4.50	544.48
2	19/11/17	31	1	0.02939776	833.34	9,455.52	277.97	4.25	551.12
3	19/12/17	30	1	0.02843609	833.34	8,904.40	253.21	4.01	576.12
4	19/01/18	31	1	0.02939776	833.34	8,328.28	244.83	3.75	584.76
5	19/02/18	31	1	0.02939776	833.34	7,743.52	227.64	3.48	602.22
6	19/03/18	28	1	0.02651545	833.34	7,141.30	189.35	3.21	640.78
7	19/04/18	31	1	0.02939776	833.34	6,500.52	191.10	2.93	639.31
8	19/05/18	30	1	0.02843609	833.34	5,861.21	166.67	2.64	664.03
9	19/06/18	31	1	0.02939776	833.34	5,197.18	152.79	2.34	678.21
10	19/07/18	30	1	0.02843609	833.34	4,518.97	128.50	2.03	702.81
11	19/08/18	31	1	0.02939776	833.34	3,816.16	112.19	1.72	719.43
12	19/09/18	31	1	0.02939776	833.34	3,096.73	91.04	1.39	740.91
13	19/10/18	30	1	0.02843609	833.34	2,355.82	66.99	1.06	765.29
14	19/11/18	31	1	0.02939776	833.34	1,590.53	46.76	0.72	785.86
15	19/12/18	30	1	0.02843609	833.34	804.67	22.88	0.36	810.10
16	19/01/19	31	1	0.02939776	833.34	-5.43	-0.16	0.00	833.50
17	19/02/19	31	1	0.02939776	833.34	-838.93	-24.66	-0.38	858.38
18	19/03/19	28	1	0.02651545	833.34	-1,697.31	-45.00	-0.76	879.10
						-2,576.41			

- iii. Verificar saldo capital, para obtener valor de nueva cuota, si es mayor a cero, multiplicar la cuota por 1.5; si es menor que cero, identificar límite superior e inferior.

$$\text{Saldo Capital} = -2,576.41 (< 0)$$

$$\text{Limite Cuota Inferior} = 555.56$$

$$\text{Limite Cuota Superior} = 833.34$$

- b. Método de la Bisección (60 iteraciones)

- i. Se debe calcular la cuota:

$$\text{Cuota} = (\text{Limite Cuota Inferior} + \text{Limite Cuota Superior}) / 2$$

$$\text{Cuota} = (555.56 + 833.34) / 2 = 694.45$$

Aplicar la cuota y calcular el capital, interés compensatorio y seguro desgravamen por cada cuota.

	Fecha	Días	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Interes	Seg. Desgrav.	Capital
	19/09/17								
1	19/10/17	30	1	0.02843609	694.45	10,000.00	284.36	4.50	405.59
2	19/11/17	31	1	0.02939776	694.45	9,594.41	282.05	4.32	408.08
3	19/12/17	30	1	0.02843609	694.45	9,186.33	261.22	4.13	429.10
4	19/01/18	31	1	0.02939776	694.45	8,757.23	257.44	3.94	433.07
5	19/02/18	31	1	0.02939776	694.45	8,324.16	244.71	3.75	445.99
6	19/03/18	28	1	0.02651545	694.45	7,878.17	208.89	3.55	482.01
7	19/04/18	31	1	0.02939776	694.45	7,396.16	217.43	3.33	473.69
8	19/05/18	30	1	0.02843609	694.45	6,922.47	196.85	3.12	494.48
9	19/06/18	31	1	0.02939776	694.45	6,427.99	188.97	2.89	502.59
10	19/07/18	30	1	0.02843609	694.45	5,925.40	168.50	2.67	523.28
11	19/08/18	31	1	0.02939776	694.45	5,402.12	158.81	2.43	533.21
12	19/09/18	31	1	0.02939776	694.45	4,868.91	143.14	2.19	549.12
13	19/10/18	30	1	0.02843609	694.45	4,319.79	122.84	1.94	569.67
14	19/11/18	31	1	0.02939776	694.45	3,750.12	110.25	1.69	582.51
15	19/12/18	30	1	0.02843609	694.45	3,167.61	90.07	1.43	602.95
16	19/01/19	31	1	0.02939776	694.45	2,564.66	75.40	1.15	617.90
17	19/02/19	31	1	0.02939776	694.45	1,946.76	57.23	0.88	636.34
18	19/03/19	28	1	0.02651545	694.45	1,310.42	34.75	0.59	659.11
						651.31			

- ii. Verificar el saldo capital, si el saldo capital es mayor que cero, la cuota calculada es la nueva cuota límite inferior; si el saldo es menor que cero, la cuota calculada es la nueva cuota límite superior. En caso que sea cero, la cuota calculada es la cuota del crédito. Para este caso:

$$\text{Saldo Capital} = 651.31 (> 0)$$

$$\text{Limite Cuota Inferior} = 694.45$$

$$\text{Limite Cuota Superior} = 833.34$$

- iii. Se debe calcular la cuota:

$$\text{Cuota} = (\text{Limite Cuota Inferior} + \text{Limite Cuota Superior}) / 2$$

$$\text{Cuota} = (694.45 + 833.34) / 2 = 763.9$$

Aplicar la cuota y calcular el capital, interés compensatorio y seguro desgravamen por cada cuota.

	Fecha	Dias	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Interes	Seg. Desgrav.	Capital
	19/09/17								
1	19/10/17	30	1	0.02843609	763.9	10,000.00	284.36	4.50	475.04
2	19/11/17	31	1	0.02939776	763.9	9,524.96	280.01	4.29	479.60
3	19/12/17	30	1	0.02843609	763.9	9,045.36	257.21	4.07	502.62
4	19/01/18	31	1	0.02939776	763.9	8,542.74	251.14	3.84	508.92
5	19/02/18	31	1	0.02939776	763.9	8,033.82	236.18	3.62	524.10
6	19/03/18	28	1	0.02651545	763.9	7,509.72	199.12	3.38	561.40
7	19/04/18	31	1	0.02939776	763.9	6,948.32	204.27	3.13	556.50
8	19/05/18	30	1	0.02843609	763.9	6,391.82	181.76	2.88	579.26
9	19/06/18	31	1	0.02939776	763.9	5,812.56	170.88	2.62	590.40
10	19/07/18	30	1	0.02843609	763.9	5,222.16	148.50	2.35	613.05
11	19/08/18	31	1	0.02939776	763.9	4,609.11	135.50	2.07	626.33
12	19/09/18	31	1	0.02939776	763.9	3,982.78	117.08	1.79	645.03
13	19/10/18	30	1	0.02843609	763.9	3,337.75	94.91	1.50	667.49
14	19/11/18	31	1	0.02939776	763.9	2,670.26	78.50	1.20	684.20
15	19/12/18	30	1	0.02843609	763.9	1,986.06	56.48	0.89	706.53
16	19/01/19	31	1	0.02939776	763.9	1,279.53	37.62	0.58	725.70
17	19/02/19	31	1	0.02939776	763.9	553.83	16.28	0.25	747.37
18	19/03/19	28	1	0.02651545	763.9	-193.54	-5.13	-0.09	769.12
						-962.66			

- iv. Verificar el saldo capital, si el saldo capital es mayor que cero, la cuota calculada es la nueva cuota límite inferior; si el saldo es menor que cero, la cuota calculada es la nueva cuota límite superior. En caso que sea cero, la cuota calculada es la cuota del crédito. Para este caso:

$$\text{Saldo Capital} = -962.66 (< 0)$$

$$\text{Limite Cuota Inferior} = 694.45$$

$$\text{Limite Cuota Superior} = 763.9$$

- v. Para este caso se realizaron 17 iteraciones de las 60, hasta hallar un punto de no cambio.

	Biseccion				
1			694.45	555.56	833.34
2	651.31 >0		763.9	694.45	833.34
3	-962.66 <0		729.18	694.45	763.9
4	-155.86 <0		711.82	694.45	729.18
5	247.61 >0		720.5	711.82	729.18
6	45.92 >0		724.84	720.5	729.18
7	-54.97 <0		722.67	720.5	724.84
8	-4.54 <0		721.59	720.5	722.67
9	20.59 >0		722.13	721.59	722.67
10	8.01 >0		722.4	722.13	722.67
11	1.76 >0		722.54	722.4	722.67
12	-1.5 <0		722.47	722.4	722.54
13	0.13 >0		722.51	722.47	722.54
14	-0.79 <0		722.49	722.47	722.51
15	-0.32 <0		722.48	722.47	722.49
16	-0.1 <0		722.48	722.47	722.48
17	-0.1 <0		722.48	722.47	722.48
18			0		
19			0		
20			0		
21			0		

Donde se verifica, que la cuota calculada es 722.48. Aplicar la cuota y calcular el capital, interés compensatorio y seguro desgravamen por cada cuota.

	Fecha	Dias	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Interes	Seg. Desgrav.	Capital
	19/09/17								
1	19/10/17	30	1	0.02843609	722.48	10,000.00	284.36	4.50	433.62
2	19/11/17	31	1	0.02939776	722.48	9,566.38	281.23	4.30	436.95
3	19/12/17	30	1	0.02843609	722.48	9,129.43	259.61	4.11	458.76
4	19/01/18	31	1	0.02939776	722.48	8,670.67	254.90	3.90	463.68
5	19/02/18	31	1	0.02939776	722.48	8,206.99	241.27	3.69	477.52
6	19/03/18	28	1	0.02651545	722.48	7,729.47	204.95	3.48	514.05
7	19/04/18	31	1	0.02939776	722.48	7,215.42	212.12	3.25	507.11
8	19/05/18	30	1	0.02843609	722.48	6,708.31	190.76	3.02	528.70
9	19/06/18	31	1	0.02939776	722.48	6,179.61	181.67	2.78	538.03
10	19/07/18	30	1	0.02843609	722.48	5,641.58	160.42	2.54	559.52
11	19/08/18	31	1	0.02939776	722.48	5,082.06	149.40	2.29	570.79
12	19/09/18	31	1	0.02939776	722.48	4,511.27	132.62	2.03	587.83
13	19/10/18	30	1	0.02843609	722.48	3,923.44	111.57	1.77	609.14
14	19/11/18	31	1	0.02939776	722.48	3,314.30	97.43	1.49	623.56
15	19/12/18	30	1	0.02843609	722.48	2,690.74	76.51	1.21	644.76
16	19/01/19	31	1	0.02939776	722.48	2,045.98	60.15	0.92	661.41
17	19/02/19	31	1	0.02939776	722.48	1,384.57	40.70	0.62	681.16
18	19/03/19	28	1	0.02651545	722.48	703.41	18.65	0.32	703.51
						-0.10			

a. Ajuste de última cuota

Si el saldo capital es diferente de cero, se debe realizar un ajuste al capital de la última cuota:

$$\text{Capital} = \text{Capital} + \text{Saldo Capital}$$

$$\text{Capital} = 703.51 + (-0.10)$$

$$\text{Capital} = 713.41$$

	Fecha	Dias	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Interes	Seg. Desgrav.	Capital
	19/09/17								
1	19/10/17	30	1	0.02843609	722.48	10,000.00	284.36	4.50	433.62
2	19/11/17	31	1	0.02939776	722.48	9,566.38	281.23	4.30	436.95
3	19/12/17	30	1	0.02843609	722.48	9,129.43	259.61	4.11	458.76
4	19/01/18	31	1	0.02939776	722.48	8,670.67	254.90	3.90	463.68
5	19/02/18	31	1	0.02939776	722.48	8,206.99	241.27	3.69	477.52
6	19/03/18	28	1	0.02651545	722.48	7,729.47	204.95	3.48	514.05
7	19/04/18	31	1	0.02939776	722.48	7,215.42	212.12	3.25	507.11
8	19/05/18	30	1	0.02843609	722.48	6,708.31	190.76	3.02	528.70
9	19/06/18	31	1	0.02939776	722.48	6,179.61	181.67	2.78	538.03
10	19/07/18	30	1	0.02843609	722.48	5,641.58	160.42	2.54	559.52
11	19/08/18	31	1	0.02939776	722.48	5,082.06	149.40	2.29	570.79
12	19/09/18	31	1	0.02939776	722.48	4,511.27	132.62	2.03	587.83
13	19/10/18	30	1	0.02843609	722.48	3,923.44	111.57	1.77	609.14
14	19/11/18	31	1	0.02939776	722.48	3,314.30	97.43	1.49	623.56
15	19/12/18	30	1	0.02843609	722.48	2,690.74	76.51	1.21	644.76
16	19/01/19	31	1	0.02939776	722.48	2,045.98	60.15	0.92	661.41
17	19/02/19	31	1	0.02939776	722.48	1,384.57	40.70	0.62	681.16
18	19/03/19	28	1	0.02651545	722.48	703.41	18.65	0.32	703.41
						0.00			10,000.00

CASO 2: Cliente quiere sacar un crédito VEHICULAR de S/25,832. Con una TEA de 37.8%, el cliente tendrá 78 cuotas catorcenales, con un periodo de gracia de 45 días. El pago catorcenal a pagar el cliente por GPS es de S/29.12 y por seguro vehicular es de S/75.62. Se desea conocer la cuota a pagar del cliente.

TEA (i): 37.80%

Capital (k): 25,832

Cuotas (n): 78

Frecuencia (f): 14 días

Seguro Desgravamen (tsd): 0.045%

Seguro Vehicular (sv): 75.62

GPS (gps): 29.12

1. Calcular la tasa diaria.

$$Tasa\ Diaria\ (td) = (1 + i/100)^{\frac{1}{360}} - 1$$

$$Tasa\ Diaria\ (td) = (1 + 37.8/100)^{\frac{1}{360}} - 1$$

$$Tasa\ Diaria\ (td) = 0.00089104$$

2. Determinar fechas de cuotas.

	Fecha
	30/06/15
1	14/08/15
2	28/08/15
3	11/09/15
4	25/09/15
5	09/10/15
6	23/10/15
7	06/11/15
8	20/11/15
9	04/12/15
10	18/12/15
11	01/01/16
12	15/01/16
13	29/01/16
14	12/02/16
15	26/02/16
16	11/03/16
17	25/03/16
18	08/04/16
19	22/04/16
20	06/05/16
21	20/05/16
22	03/06/16
23	17/06/16
24	01/07/16
25	15/07/16
26	29/07/16
27	12/08/16
28	26/08/16
29	09/09/16
30	23/09/16
31	07/10/16
32	21/10/16
33	04/11/16
34	18/11/16
35	02/12/16
36	16/12/16
37	30/12/16
38	13/01/17
39	27/01/17
40	10/02/17
41	24/02/17
42	10/03/17
43	24/03/17
44	07/04/17
45	21/04/17
46	05/05/17
47	19/05/17
48	02/06/17
49	16/06/17
50	30/06/17
51	14/07/17
52	28/07/17
53	11/08/17
54	25/08/17
55	08/09/17
56	22/09/17
57	06/10/17
58	20/10/17
59	03/11/17
60	17/11/17
61	01/12/17
62	15/12/17
63	29/12/17
64	12/01/18
65	26/01/18
66	09/02/18
67	23/02/18
68	09/03/18
69	23/03/18
70	06/04/18
71	20/04/18
72	04/05/18
73	18/05/18
74	01/06/18
75	15/06/18
76	29/06/18
77	13/07/18
78	27/07/18

3. Calcular días entre cuotas.

$$\text{Días}_n = \text{Fecha Cuota}_n - \text{Fecha cuota}_{n-1}$$

	Fecha	Días
	30/06/15	
1	14/08/15	45
2	28/08/15	14
3	11/09/15	14
4	25/09/15	14
5	09/10/15	14
6	23/10/15	14
7	06/11/15	14
8	20/11/15	14
9	04/12/15	14
10	18/12/15	14
11	01/01/16	14
12	15/01/16	14
13	29/01/16	14
14	12/02/16	14
15	26/02/16	14
16	11/03/16	14
17	25/03/16	14
18	08/04/16	14
19	22/04/16	14
20	06/05/16	14
21	20/05/16	14
22	03/06/16	14
23	17/06/16	14
24	01/07/16	14
25	15/07/16	14
26	29/07/16	14
27	12/08/16	14
28	26/08/16	14
29	09/09/16	14
30	23/09/16	14
31	07/10/16	14
32	21/10/16	14
33	04/11/16	14
34	18/11/16	14
35	02/12/16	14
36	16/12/16	14
37	30/12/16	14
38	13/01/17	14
39	27/01/17	14
40	10/02/17	14
41	24/02/17	14
42	10/03/17	14
43	24/03/17	14
44	07/04/17	14
45	21/04/17	14
46	05/05/17	14
47	19/05/17	14
48	02/06/17	14
49	16/06/17	14
50	30/06/17	14
51	14/07/17	14
52	28/07/17	14
53	11/08/17	14
54	25/08/17	14
55	08/09/17	14
56	22/09/17	14
57	06/10/17	14
58	20/10/17	14
59	03/11/17	14
60	17/11/17	14
61	01/12/17	14
62	15/12/17	14
63	29/12/17	14
64	12/01/18	14
65	26/01/18	14
66	09/02/18	14
67	23/02/18	14
68	09/03/18	14
69	23/03/18	14
70	06/04/18	14
71	20/04/18	14
72	04/05/18	14
73	18/05/18	14
74	01/06/18	14
75	15/06/18	14
76	29/06/18	14
77	13/07/18	14
78	27/07/18	14

4. Calcular periodos mensuales entre cuotas.

$$\text{Periodos} = (\text{Año}(\text{Fecha Cuota}_n) - \text{Año}(\text{Fecha cuota}_{n-1})) * 12 + (\text{Mes}(\text{Fecha Cuota}_n) - \text{Mes}(\text{Fecha cuota}_{n-1}))$$

	Fecha	Días	Periodos
	30/06/15		
1	14/08/15	45	2
2	28/08/15	14	0
3	11/09/15	14	1
4	25/09/15	14	0
5	09/10/15	14	1
6	23/10/15	14	0
7	06/11/15	14	1
8	20/11/15	14	0
9	04/12/15	14	1
10	18/12/15	14	0
11	01/01/16	14	1
12	15/01/16	14	0
13	29/01/16	14	0
14	12/02/16	14	1
15	26/02/16	14	0
16	11/03/16	14	1
17	25/03/16	14	0
18	08/04/16	14	1
19	22/04/16	14	0
20	06/05/16	14	1
21	20/05/16	14	0
22	03/06/16	14	1
23	17/06/16	14	0
24	01/07/16	14	1
25	15/07/16	14	0
26	29/07/16	14	0
27	12/08/16	14	1
28	26/08/16	14	0
29	09/09/16	14	1
30	23/09/16	14	0
31	07/10/16	14	1
32	21/10/16	14	0
33	04/11/16	14	1
34	18/11/16	14	0
35	02/12/16	14	1
36	16/12/16	14	0
37	30/12/16	14	0
38	13/01/17	14	1
39	27/01/17	14	0
40	10/02/17	14	1
41	24/02/17	14	0
42	10/03/17	14	1
43	24/03/17	14	0
44	07/04/17	14	1
45	21/04/17	14	0
46	05/05/17	14	1
47	19/05/17	14	0
48	02/06/17	14	1
49	16/06/17	14	0
50	30/06/17	14	0
51	14/07/17	14	1
52	28/07/17	14	0
53	11/08/17	14	1
54	25/08/17	14	0
55	08/09/17	14	1
56	22/09/17	14	0
57	06/10/17	14	1
58	20/10/17	14	0
59	03/11/17	14	1
60	17/11/17	14	0
61	01/12/17	14	1
62	15/12/17	14	0
63	29/12/17	14	0
64	12/01/18	14	1
65	26/01/18	14	0
66	09/02/18	14	1
67	23/02/18	14	0
68	09/03/18	14	1
69	23/03/18	14	0
70	06/04/18	14	1
71	20/04/18	14	0
72	04/05/18	14	1
73	18/05/18	14	0
74	01/06/18	14	1
75	15/06/18	14	0
76	29/06/18	14	0
77	13/07/18	14	1
78	27/07/18	14	0

5. Obtener la tasa efectiva por cuota.

$$Tasa\ Efectiva\ _n\ (te) = (1 + td_n)^{dians} - 1$$

	Fecha	Días	Periodos	Tasa Efectiva
	30/06/15			
1	14/08/15	45	2	0.04089315
2	28/08/15	14	0	0.01254713
3	11/09/15	14	1	0.01254713
4	25/09/15	14	0	0.01254713
5	09/10/15	14	1	0.01254713
6	23/10/15	14	0	0.01254713
7	06/11/15	14	1	0.01254713
8	20/11/15	14	0	0.01254713
9	04/12/15	14	1	0.01254713
10	18/12/15	14	0	0.01254713
11	01/01/16	14	1	0.01254713
12	15/01/16	14	0	0.01254713
13	29/01/16	14	0	0.01254713
14	12/02/16	14	1	0.01254713
15	26/02/16	14	0	0.01254713
16	11/03/16	14	1	0.01254713
17	25/03/16	14	0	0.01254713
18	08/04/16	14	1	0.01254713
19	22/04/16	14	0	0.01254713
20	06/05/16	14	1	0.01254713
21	20/05/16	14	0	0.01254713
22	03/06/16	14	1	0.01254713
23	17/06/16	14	0	0.01254713
24	01/07/16	14	1	0.01254713
25	15/07/16	14	0	0.01254713
26	29/07/16	14	0	0.01254713
27	12/08/16	14	1	0.01254713
28	26/08/16	14	0	0.01254713
29	09/09/16	14	1	0.01254713
30	23/09/16	14	0	0.01254713
31	07/10/16	14	1	0.01254713
32	21/10/16	14	0	0.01254713
33	04/11/16	14	1	0.01254713
34	18/11/16	14	0	0.01254713
35	02/12/16	14	1	0.01254713
36	16/12/16	14	0	0.01254713
37	30/12/16	14	0	0.01254713
38	13/01/17	14	1	0.01254713
39	27/01/17	14	0	0.01254713
40	10/02/17	14	1	0.01254713
41	24/02/17	14	0	0.01254713
42	10/03/17	14	1	0.01254713
43	24/03/17	14	0	0.01254713
44	07/04/17	14	1	0.01254713
45	21/04/17	14	0	0.01254713
46	05/05/17	14	1	0.01254713
47	19/05/17	14	0	0.01254713
48	02/06/17	14	1	0.01254713
49	16/06/17	14	0	0.01254713
50	30/06/17	14	0	0.01254713
51	14/07/17	14	1	0.01254713
52	28/07/17	14	0	0.01254713
53	11/08/17	14	1	0.01254713
54	25/08/17	14	0	0.01254713
55	08/09/17	14	1	0.01254713
56	22/09/17	14	0	0.01254713
57	06/10/17	14	1	0.01254713
58	20/10/17	14	0	0.01254713
59	03/11/17	14	1	0.01254713
60	17/11/17	14	0	0.01254713
61	01/12/17	14	1	0.01254713
62	15/12/17	14	0	0.01254713
63	29/12/17	14	0	0.01254713
64	12/01/18	14	1	0.01254713
65	26/01/18	14	0	0.01254713
66	09/02/18	14	1	0.01254713
67	23/02/18	14	0	0.01254713
68	09/03/18	14	1	0.01254713
69	23/03/18	14	0	0.01254713
70	06/04/18	14	1	0.01254713
71	20/04/18	14	0	0.01254713
72	04/05/18	14	1	0.01254713
73	18/05/18	14	0	0.01254713
74	01/06/18	14	1	0.01254713
75	15/06/18	14	0	0.01254713
76	29/06/18	14	0	0.01254713
77	13/07/18	14	1	0.01254713
78	27/07/18	14	0	0.01254713

6. Aplicar monto de GPS y seguro vehicular a todas las cuotas

	Fecha	Dias	Periodos	Tasa Efectiva	GPS	Seguro Vehi.
	30/06/15					
1	14/08/15	45	2	0.04089315	29.12	75.62
2	28/08/15	14	0	0.01254713	29.12	75.62
3	11/09/15	14	1	0.01254713	29.12	75.62
4	25/09/15	14	0	0.01254713	29.12	75.62
5	09/10/15	14	1	0.01254713	29.12	75.62
6	23/10/15	14	0	0.01254713	29.12	75.62
7	06/11/15	14	1	0.01254713	29.12	75.62
8	20/11/15	14	0	0.01254713	29.12	75.62
9	04/12/15	14	1	0.01254713	29.12	75.62
10	18/12/15	14	0	0.01254713	29.12	75.62
11	01/01/16	14	1	0.01254713	29.12	75.62
12	15/01/16	14	0	0.01254713	29.12	75.62
13	29/01/16	14	0	0.01254713	29.12	75.62
14	12/02/16	14	1	0.01254713	29.12	75.62
15	26/02/16	14	0	0.01254713	29.12	75.62
16	11/03/16	14	1	0.01254713	29.12	75.62
17	25/03/16	14	0	0.01254713	29.12	75.62
18	08/04/16	14	1	0.01254713	29.12	75.62
19	22/04/16	14	0	0.01254713	29.12	75.62
20	06/05/16	14	1	0.01254713	29.12	75.62
21	20/05/16	14	0	0.01254713	29.12	75.62
22	03/06/16	14	1	0.01254713	29.12	75.62
23	17/06/16	14	0	0.01254713	29.12	75.62
24	01/07/16	14	1	0.01254713	29.12	75.62
25	15/07/16	14	0	0.01254713	29.12	75.62
26	29/07/16	14	0	0.01254713	29.12	75.62
27	12/08/16	14	1	0.01254713	29.12	75.62
28	26/08/16	14	0	0.01254713	29.12	75.62
29	09/09/16	14	1	0.01254713	29.12	75.62
30	23/09/16	14	0	0.01254713	29.12	75.62
31	07/10/16	14	1	0.01254713	29.12	75.62
32	21/10/16	14	0	0.01254713	29.12	75.62
33	04/11/16	14	1	0.01254713	29.12	75.62
34	18/11/16	14	0	0.01254713	29.12	75.62
35	02/12/16	14	1	0.01254713	29.12	75.62
36	16/12/16	14	0	0.01254713	29.12	75.62
37	30/12/16	14	0	0.01254713	29.12	75.62
38	13/01/17	14	1	0.01254713	29.12	75.62
39	27/01/17	14	0	0.01254713	29.12	75.62
40	10/02/17	14	1	0.01254713	29.12	75.62
41	24/02/17	14	0	0.01254713	29.12	75.62
42	10/03/17	14	1	0.01254713	29.12	75.62
43	24/03/17	14	0	0.01254713	29.12	75.62
44	07/04/17	14	1	0.01254713	29.12	75.62
45	21/04/17	14	0	0.01254713	29.12	75.62
46	05/05/17	14	1	0.01254713	29.12	75.62
47	19/05/17	14	0	0.01254713	29.12	75.62
48	02/06/17	14	1	0.01254713	29.12	75.62
49	16/06/17	14	0	0.01254713	29.12	75.62
50	30/06/17	14	0	0.01254713	29.12	75.62
51	14/07/17	14	1	0.01254713	29.12	75.62
52	28/07/17	14	0	0.01254713	29.12	75.62
53	11/08/17	14	1	0.01254713	29.12	75.62
54	25/08/17	14	0	0.01254713	29.12	75.62
55	08/09/17	14	1	0.01254713	29.12	75.62
56	22/09/17	14	0	0.01254713	29.12	75.62
57	06/10/17	14	1	0.01254713	29.12	75.62
58	20/10/17	14	0	0.01254713	29.12	75.62
59	03/11/17	14	1	0.01254713	29.12	75.62
60	17/11/17	14	0	0.01254713	29.12	75.62
61	01/12/17	14	1	0.01254713	29.12	75.62
62	15/12/17	14	0	0.01254713	29.12	75.62
63	29/12/17	14	0	0.01254713	29.12	75.62
64	12/01/18	14	1	0.01254713	29.12	75.62
65	26/01/18	14	0	0.01254713	29.12	75.62
66	09/02/18	14	1	0.01254713	29.12	75.62
67	23/02/18	14	0	0.01254713	29.12	75.62
68	09/03/18	14	1	0.01254713	29.12	75.62
69	23/03/18	14	0	0.01254713	29.12	75.62
70	06/04/18	14	1	0.01254713	29.12	75.62
71	20/04/18	14	0	0.01254713	29.12	75.62
72	04/05/18	14	1	0.01254713	29.12	75.62
73	18/05/18	14	0	0.01254713	29.12	75.62
74	01/06/18	14	1	0.01254713	29.12	75.62
75	15/06/18	14	0	0.01254713	29.12	75.62
76	29/06/18	14	0	0.01254713	29.12	75.62
77	13/07/18	14	1	0.01254713	29.12	75.62
78	27/07/18	14	0	0.01254713	29.12	75.62

7. Fórmulas para obtener datos necesarios para el cálculo de la cuota.

a. Interés Compensatorio Real Cuota

$$\text{Interés Compensatorio Real } n \text{ (icr)} = \text{Saldo Capital } n * te_n$$

b. Suma Interés Compensatorio Real y Gastos

$$\text{Interés Compensatorio Real con Gastos } n \text{ (icg)} = icr_n + ica_{n-1} + sd_n + gps_n + \text{seguro vehicular } n$$

c. Interés Compensatorio Cuota

Si $icg_n \geq \text{Cuota}$

$$\text{Interés Compensatorio } n \text{ (ic)} = \text{Cuota} - sd_n - gps_n - \text{seguro vehicular } n$$

Si $icg_n < \text{Cuota}$

$$\text{Interés Compensatorio } n \text{ (ic)} = icr_n + ica_{n-1}$$

d. Diferencia de Interés Compensatorio y Real de Cuota

$$\text{Diferencia Interés Compensatorio } n \text{ (dic)} = icr_n - ic_n$$

e. Interés Acumulado Cuota

$$\text{Interés Compensatorio Acumulado } n \text{ (ica)} = dic_n + ica_{n-1}$$

f. Seguro Desgravamen Cuota

$$\text{Seguro Desgravamen } n \text{ (sd)} = \text{Saldo Capital } n * tsd_n / 100 * \text{periodos } n$$

8. Cálculo para obtener el monto de la cuota.

a. Determinación del intervalo inicial (25 iteraciones)

i. Primero, determinar la cuota inicial dividiendo el capital entre el número de cuotas.

$$\text{Cuota} = 25,832 / 78 = 331.18$$

Aplicar la cuota y calcular el capital, interés compensatorio y seguro desgravamen por cada cuota.

Si $icg_n \geq \text{Cuota}$

$$\text{Capital } n = 0$$

Si $icg_n < \text{Cuota}$

$$\text{Capital } n = \text{Cuota} - (icr_n + ica_{n-1}) - sd_n - gps_n - \text{seguro vehicular } n$$

$$\text{Saldo Capital } n = \text{Saldo Capital } n-1 - \text{Capital } n-1$$

Si $\text{Capital } n > 0$

$$\text{Saldo Capital con Interés acumulado } n = \text{Saldo Capital } n$$

Si $\text{Capital } n \leq 0$

$$\text{Saldo Capital con Interés acumulado } n = \text{Saldo Capital } n - ica_n$$

Fecha	Dias	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Saldo Capital + Int.	Int. Real	Interes	Int. Dif	Int. Acum	Seg. Desgrav.	Capital	GPS	Seguro Vehi.
30/06/15														
1	14/08/15	45	2	0.04089915	331.18	25,832.00	35,832.00	1,056.95	203.19	853.16	23.25	0.00	29.12	75.62
2	28/08/15	14	0	0.01254713	331.18	25,832.00	26,685.16	334.82	226.44	108.38	961.54	0.00	0.00	75.62
3	11/09/15	14	1	0.01254713	331.18	25,832.00	26,793.54	336.18	214.82	121.36	1,082.90	11.62	0.00	75.62
4	25/09/15	14	0	0.01254713	331.18	25,832.00	26,914.90	337.70	226.44	111.26	1,194.16	0.00	0.00	75.62
5	09/10/15	14	1	0.01254713	331.18	25,832.00	27,026.16	339.10	214.82	124.28	1,318.44	11.62	0.00	75.62
6	23/10/15	14	0	0.01254713	331.18	25,832.00	27,150.44	340.66	226.44	114.22	1,432.66	0.00	0.00	75.62
7	06/11/15	14	1	0.01254713	331.18	25,832.00	27,264.66	342.09	214.82	127.27	1,559.93	11.62	0.00	75.62
8	20/11/15	14	0	0.01254713	331.18	25,832.00	27,391.93	343.69	226.44	117.25	1,677.18	0.00	0.00	75.62
9	04/12/15	14	1	0.01254713	331.18	25,832.00	27,509.18	345.16	214.82	130.34	1,807.52	11.62	0.00	75.62
10	18/12/15	14	0	0.01254713	331.18	25,832.00	27,639.52	346.80	226.44	120.36	1,927.88	0.00	0.00	75.62
11	01/01/16	14	1	0.01254713	331.18	25,832.00	27,759.88	348.31	214.82	133.49	2,061.37	11.62	0.00	75.62
12	15/01/16	14	0	0.01254713	331.18	25,832.00	27,893.37	349.98	226.44	123.54	2,184.91	0.00	0.00	75.62
13	29/01/16	14	0	0.01254713	331.18	25,832.00	28,016.91	351.53	226.44	125.09	2,310.00	0.00	0.00	75.62
14	12/02/16	14	1	0.01254713	331.18	25,832.00	28,142.00	353.10	214.82	138.28	2,448.28	11.62	0.00	75.62
15	26/02/16	14	0	0.01254713	331.18	25,832.00	28,280.28	354.84	226.44	128.40	2,576.68	0.00	0.00	75.62
16	11/03/16	14	1	0.01254713	331.18	25,832.00	28,408.68	356.45	214.82	141.63	2,718.31	11.62	0.00	75.62
17	25/03/16	14	0	0.01254713	331.18	25,832.00	28,550.31	358.22	226.44	131.78	2,850.09	0.00	0.00	75.62
18	08/04/16	14	1	0.01254713	331.18	25,832.00	28,682.09	359.88	214.82	145.06	2,995.15	11.62	0.00	75.62
19	22/04/16	14	0	0.01254713	331.18	25,832.00	28,827.15	361.70	226.44	135.26	3,130.41	0.00	0.00	75.62
20	06/05/16	14	1	0.01254713	331.18	25,832.00	28,962.41	363.40	214.82	148.58	3,278.99	11.62	0.00	75.62
21	20/05/16	14	0	0.01254713	331.18	25,832.00	29,110.99	365.26	226.44	138.82	3,417.81	0.00	0.00	75.62
22	03/06/16	14	1	0.01254713	331.18	25,832.00	29,249.81	367.00	214.82	152.18	3,569.99	11.62	0.00	75.62
23	17/06/16	14	0	0.01254713	331.18	25,832.00	29,401.99	368.91	226.44	142.47	3,712.46	0.00	0.00	75.62
24	01/07/16	14	1	0.01254713	331.18	25,832.00	29,544.46	370.70	214.82	155.88	3,868.34	11.62	0.00	75.62
25	15/07/16	14	0	0.01254713	331.18	25,832.00	29,700.34	372.65	226.44	146.21	4,014.55	0.00	0.00	75.62
26	29/07/16	14	0	0.01254713	331.18	25,832.00	29,846.55	374.49	226.44	148.05	4,162.60	0.00	0.00	75.62
27	12/08/16	14	1	0.01254713	331.18	25,832.00	29,994.60	376.35	214.82	161.53	4,324.13	11.62	0.00	75.62
28	26/08/16	14	0	0.01254713	331.18	25,832.00	30,156.13	378.37	226.44	151.93	4,476.06	0.00	0.00	75.62
29	09/09/16	14	1	0.01254713	331.18	25,832.00	30,308.06	380.28	214.82	165.46	4,641.52	11.62	0.00	75.62
30	23/09/16	14	0	0.01254713	331.18	25,832.00	30,473.52	382.36	226.44	155.92	4,797.44	0.00	0.00	75.62
31	07/10/16	14	1	0.01254713	331.18	25,832.00	30,629.44	384.31	214.82	169.49	4,966.93	11.62	0.00	75.62
32	21/10/16	14	0	0.01254713	331.18	25,832.00	30,798.93	386.44	226.44	160.00	5,126.93	0.00	0.00	75.62
33	04/11/16	14	1	0.01254713	331.18	25,832.00	30,958.93	388.45	214.82	173.63	5,300.56	11.62	0.00	75.62
34	18/11/16	14	0	0.01254713	331.18	25,832.00	31,132.56	390.52	226.44	164.18	5,464.74	0.00	0.00	75.62
35	02/12/16	14	1	0.01254713	331.18	25,832.00	31,296.74	392.68	214.82	177.86	5,642.60	11.62	0.00	75.62
36	16/12/16	14	0	0.01254713	331.18	25,832.00	31,474.60	394.92	226.44	168.48	5,811.08	0.00	0.00	75.62
37	30/12/16	14	0	0.01254713	331.18	25,832.00	31,648.08	397.03	226.44	170.59	5,981.67	0.00	0.00	75.62
38	13/01/17	14	1	0.01254713	331.18	25,832.00	31,813.67	399.17	214.82	184.35	6,166.02	11.62	0.00	75.62
39	27/01/17	14	0	0.01254713	331.18	25,832.00	31,998.02	401.48	226.44	175.04	6,341.06	0.00	0.00	75.62
40	10/02/17	14	1	0.01254713	331.18	25,832.00	32,173.06	403.68	214.82	188.86	6,529.92	11.62	0.00	75.62
41	24/02/17	14	0	0.01254713	331.18	25,832.00	32,361.92	406.05	226.44	179.61	6,709.53	0.00	0.00	75.62
42	10/03/17	14	1	0.01254713	331.18	25,832.00	32,541.53	408.30	214.82	193.48	6,903.01	11.62	0.00	75.62
43	24/03/17	14	0	0.01254713	331.18	25,832.00	32,735.01	410.73	226.44	184.29	7,087.30	0.00	0.00	75.62
44	07/04/17	14	1	0.01254713	331.18	25,832.00	32,919.30	413.04	214.82	198.22	7,285.52	11.62	0.00	75.62
45	21/04/17	14	0	0.01254713	331.18	25,832.00	33,117.52	415.53	226.44	189.09	7,474.61	0.00	0.00	75.62
46	05/05/17	14	1	0.01254713	331.18	25,832.00	33,306.61	417.90	214.82	203.08	7,677.69	11.62	0.00	75.62
47	19/05/17	14	0	0.01254713	331.18	25,832.00	33,509.69	420.45	226.44	194.01	7,871.70	0.00	0.00	75.62
48	02/06/17	14	1	0.01254713	331.18	25,832.00	33,703.70	422.88	214.82	208.06	8,079.76	11.62	0.00	75.62
49	16/06/17	14	0	0.01254713	331.18	25,832.00	33,911.76	425.50	226.44	199.06	8,278.82	0.00	0.00	75.62
50	30/06/17	14	0	0.01254713	331.18	25,832.00	34,110.82	427.99	226.44	201.55	8,480.37	0.00	0.00	75.62
51	14/07/17	14	1	0.01254713	331.18	25,832.00	34,312.37	430.52	214.82	215.70	8,696.07	11.62	0.00	75.62
52	28/07/17	14	0	0.01254713	331.18	25,832.00	34,528.07	433.23	226.44	206.79	8,902.86	0.00	0.00	75.62
53	11/08/17	14	1	0.01254713	331.18	25,832.00	34,734.86	435.82	214.82	221.00	9,123.86	11.62	0.00	75.62
54	25/08/17	14	0	0.01254713	331.18	25,832.00	34,955.86	438.60	226.44	212.16	9,336.02	0.00	0.00	75.62
55	08/09/17	14	1	0.01254713	331.18	25,832.00	35,168.02	441.26	214.82	226.44	9,562.46	11.62	0.00	75.62
56	22/09/17	14	0	0.01254713	331.18	25,832.00	35,394.46	444.10	226.44	217.66	9,780.12	0.00	0.00	75.62
57	06/10/17	14	1	0.01254713	331.18	25,832.00	35,612.12	446.83	214.82	232.01	10,012.13	11.62	0.00	75.62
58	20/10/17	14	0	0.01254713	331.18	25,832.00	35,844.13	449.74	226.44	223.30	10,235.43	0.00	0.00	75.62
59	03/11/17	14	1	0.01254713	331.18	25,832.00	36,067.43	452.54	214.82	237.72	10,473.15	11.62	0.00	75.62
60	17/11/17	14	0	0.01254713	331.18	25,832.00	36,305.15	455.53	226.44	229.09	10,702.24	0.00	0.00	75.62
61	01/12/17	14	1	0.01254713	331.18	25,832.00	36,534.24	458.40	214.82	243.58	10,945.82	11.62	0.00	75.62
62	15/12/17	14	0	0.01254713	331.18	25,832.00	36,777.82	461.46	226.44	235.02	11,180.84	0.00	0.00	75.62
63	29/12/17	14	0	0.01254713	331.18	25,832.00	37,012.84	464.40	226.44	237.96	11,418.80	0.00	0.00	75.62
64	12/01/18	14	1	0.01254713	331.18	25,832.00	37,250.80	467.39	214.82	252.57	11,671.37	11.62	0.00	75.62
65	26/01/18	14	0	0.01254713	331.18	25,832.00	37,503.37	470.56	226.44	244.12	11,915.49	0.00	0.00	75.62
66	09/02/18	14	1	0.01254713	331.18	25,832.00	37,747.49	473.62	214.82	258.80	12,174.29	11.62	0.00	75.62

Fecha	Dias	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Saldo Capital + Int. Real	Interes	Int. Dif	Int. Acum	Seg. Desgrav.	Capital	GPS	Seguro Vehi.
30/06/15													
1	14/08/15	45	2	0.04089915	496.77	25,832.00	25,832.00	1,056.95	368.78	687.57	23.25	0.00	29.12
2	28/08/15	14	0	0.01254713	496.77	25,832.00	26,519.57	332.74	392.03	-59.29	628.28	0.00	29.12
3	11/09/15	14	1	0.01254713	496.77	25,832.00	26,460.28	332.00	380.41	-48.41	579.87	11.62	29.12
4	25/09/15	14	0	0.01254713	496.77	25,832.00	26,411.87	331.39	392.03	-60.64	519.23	0.00	29.12
5	09/10/15	14	1	0.01254713	496.77	25,832.00	26,351.23	330.63	380.41	-49.78	469.45	11.62	29.12
6	23/10/15	14	0	0.01254713	496.77	25,832.00	26,301.45	330.01	392.03	-62.02	407.43	0.00	29.12
7	06/11/15	14	1	0.01254713	496.77	25,832.00	26,239.43	329.23	380.41	-51.18	356.25	11.62	29.12
8	20/11/15	14	0	0.01254713	496.77	25,832.00	26,188.25	328.59	392.03	-63.44	292.81	0.00	29.12
9	04/12/15	14	1	0.01254713	496.77	25,832.00	26,124.81	327.79	380.41	-52.62	240.19	11.62	29.12
10	18/12/15	14	0	0.01254713	496.77	25,832.00	26,072.19	327.13	392.03	-64.90	175.29	0.00	29.12
11	01/01/16	14	1	0.01254713	496.77	25,832.00	26,007.29	326.32	380.41	-54.09	121.20	11.62	29.12
12	15/01/16	14	0	0.01254713	496.77	25,832.00	25,953.20	325.64	392.03	-66.39	54.81	0.00	29.12
13	29/01/16	14	1	0.01254713	496.77	25,832.00	25,886.81	324.81	379.62	-54.81	0.00	0.00	29.12
14	12/02/16	14	1	0.01254713	496.77	25,819.59	25,819.59	323.96	323.96	0.00	0.00	11.62	29.12
15	26/02/16	14	0	0.01254713	496.77	25,763.14	25,763.14	323.25	323.25	0.00	0.00	0.00	29.12
16	11/03/16	14	1	0.01254713	496.77	25,694.36	25,694.36	322.39	322.39	0.00	0.00	11.56	29.12
17	25/03/16	14	0	0.01254713	496.77	25,636.28	25,636.28	321.66	321.66	0.00	0.00	0.00	29.12
18	08/04/16	14	1	0.01254713	496.77	25,565.91	25,565.91	320.78	320.78	0.00	0.00	11.50	29.12
19	22/04/16	14	0	0.01254713	496.77	25,506.16	25,506.16	320.03	320.03	0.00	0.00	0.00	29.12
20	06/05/16	14	1	0.01254713	496.77	25,434.16	25,434.16	319.13	319.13	0.00	0.00	11.45	29.12
21	20/05/16	14	0	0.01254713	496.77	25,372.71	25,372.71	318.35	318.35	0.00	0.00	0.00	29.12
22	03/06/16	14	1	0.01254713	496.77	25,299.03	25,299.03	317.43	317.43	0.00	0.00	11.38	29.12
23	17/06/16	14	0	0.01254713	496.77	25,235.81	25,235.81	316.64	316.64	0.00	0.00	0.00	29.12
24	01/07/16	14	1	0.01254713	496.77	25,160.42	25,160.42	315.69	315.69	0.00	0.00	11.32	29.12
25	15/07/16	14	0	0.01254713	496.77	25,095.40	25,095.40	314.88	314.88	0.00	0.00	0.00	29.12
26	29/07/16	14	1	0.01254713	496.77	25,018.25	25,018.25	313.91	313.91	0.00	0.00	0.00	29.12
27	12/08/16	14	1	0.01254713	496.77	24,940.13	24,940.13	312.93	312.93	0.00	0.00	11.22	29.12
28	26/08/16	14	0	0.01254713	496.77	24,872.25	24,872.25	312.08	312.08	0.00	0.00	0.00	29.12
29	09/09/16	14	1	0.01254713	496.77	24,792.30	24,792.30	311.07	311.07	0.00	0.00	11.16	29.12
30	23/09/16	14	0	0.01254713	496.77	24,722.50	24,722.50	310.20	310.20	0.00	0.00	0.00	29.12
31	07/10/16	14	1	0.01254713	496.77	24,640.67	24,640.67	309.17	309.17	0.00	0.00	11.09	29.12
32	21/10/16	14	0	0.01254713	496.77	24,568.90	24,568.90	308.27	308.27	0.00	0.00	0.00	29.12
33	04/11/16	14	1	0.01254713	496.77	24,485.14	24,485.14	307.22	307.22	0.00	0.00	11.02	29.12
34	18/11/16	14	0	0.01254713	496.77	24,411.35	24,411.35	306.29	306.29	0.00	0.00	0.00	29.12
35	02/12/16	14	1	0.01254713	496.77	24,325.61	24,325.61	305.22	305.22	0.00	0.00	10.95	29.12
36	16/12/16	14	0	0.01254713	496.77	24,249.75	24,249.75	304.26	304.26	0.00	0.00	0.00	29.12
37	30/12/16	14	0	0.01254713	496.77	24,161.98	24,161.98	303.16	303.16	0.00	0.00	0.00	29.12
38	13/01/17	14	1	0.01254713	496.77	24,073.11	24,073.11	302.05	302.05	0.00	0.00	10.83	29.12
39	27/01/17	14	0	0.01254713	496.77	23,993.96	23,993.96	301.06	301.06	0.00	0.00	0.00	29.12
40	10/02/17	14	1	0.01254713	496.77	23,902.99	23,902.99	299.91	299.91	0.00	0.00	10.76	29.12
41	24/02/17	14	0	0.01254713	496.77	23,821.63	23,821.63	298.89	298.89	0.00	0.00	0.00	29.12
42	10/03/17	14	1	0.01254713	496.77	23,728.49	23,728.49	297.72	297.72	0.00	0.00	10.68	29.12
43	24/03/17	14	0	0.01254713	496.77	23,644.86	23,644.86	296.68	296.68	0.00	0.00	0.00	29.12
44	07/04/17	14	1	0.01254713	496.77	23,549.51	23,549.51	295.48	295.48	0.00	0.00	10.60	29.12
45	21/04/17	14	0	0.01254713	496.77	23,463.56	23,463.56	294.40	294.40	0.00	0.00	0.00	29.12
46	05/05/17	14	1	0.01254713	496.77	23,365.93	23,365.93	293.18	293.18	0.00	0.00	10.51	29.12
47	19/05/17	14	0	0.01254713	496.77	23,277.59	23,277.59	292.07	292.07	0.00	0.00	0.00	29.12
48	02/06/17	14	1	0.01254713	496.77	23,177.63	23,177.63	290.81	290.81	0.00	0.00	10.43	29.12
49	16/06/17	14	0	0.01254713	496.77	23,086.84	23,086.84	289.67	289.67	0.00	0.00	0.00	29.12
50	30/06/17	14	0	0.01254713	496.77	22,984.48	22,984.48	288.39	288.39	0.00	0.00	0.00	29.12
51	14/07/17	14	1	0.01254713	496.77	22,880.84	22,880.84	287.09	287.09	0.00	0.00	10.30	29.12
52	28/07/17	14	0	0.01254713	496.77	22,786.20	22,786.20	285.90	285.90	0.00	0.00	0.00	29.12
53	11/08/17	14	1	0.01254713	496.77	22,680.07	22,680.07	284.57	284.57	0.00	0.00	10.21	29.12
54	25/08/17	14	0	0.01254713	496.77	22,582.82	22,582.82	283.35	283.35	0.00	0.00	0.00	29.12
55	08/09/17	14	1	0.01254713	496.77	22,474.14	22,474.14	281.99	281.99	0.00	0.00	10.11	29.12
56	22/09/17	14	0	0.01254713	496.77	22,374.21	22,374.21	280.73	280.73	0.00	0.00	0.00	29.12
57	06/10/17	14	1	0.01254713	496.77	22,262.91	22,262.91	279.34	279.34	0.00	0.00	10.02	29.12
58	20/10/17	14	0	0.01254713	496.77	22,160.24	22,160.24	278.05	278.05	0.00	0.00	0.00	29.12
59	03/11/17	14	1	0.01254713	496.77	22,046.26	22,046.26	276.62	276.62	0.00	0.00	9.92	29.12
60	17/11/17	14	0	0.01254713	496.77	21,940.77	21,940.77	275.29	275.29	0.00	0.00	0.00	29.12
61	01/12/17	14	1	0.01254713	496.77	21,824.03	21,824.03	273.83	273.83	0.00	0.00	9.82	29.12
62	15/12/17	14	0	0.01254713	496.77	21,715.65	21,715.65	272.47	272.47	0.00	0.00	0.00	29.12
63	29/12/17	14	0	0.01254713	496.77	21,596.09	21,596.09	270.97	270.97	0.00	0.00	0.00	29.12
64	12/01/18	14	1	0.01254713	496.77	21,475.03	21,475.03	269.45	269.45	0.00	0.00	9.66	29.12
65	26/01/18	14	0	0.01254713	496.77	21,362.11	21,362.11	268.03	268.03	0.00	0.00	0.00	29.12
66	09/02/18	14	1	0.01254713	496.77	21,238.11	21,238.11	266.48	266.48	0.00	0.00	9.56	29.12
67	23/02/18	14	0	0.01254713	496.77	21,122.12	21,122.12	265.02	265.02	0.00	0.00	0.00	29.12
68	09/03/18	14	1	0.01254713	496.77	20,995.11	20,995.11	263.43	263.43	0.00	0.00	9.45	29.12
69	23/03/18	14	0	0.01254713	496.77	20,875.96	20,875.96	261.93	261.93	0.00	0.00	0.00	29.12
70	06/04/18	14	1	0.01254713	496.77	20,745.86	20,745.86	260.30	260.30	0.00	0.00	9.34	29.12
71	20/04/18	14	0	0.01254713	496.77	20,623.47	20,623.47	258.77	258.77	0.00	0.00	0.00	29.12
72	04/05/18	14	1	0.01254713	496.77	20,490.21	20,490.21	257.09	257.09	0.00	0.00	9.22	29.12
73	18/05/18	14	0	0									

	Fecha	Dias	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Saldo Capital + Int	Int. Real	Interes	Int. Dif	Int. Acum	Seg. Desgrav.	Capital	GPS	Seguro Vehi.
	30/06/15														
1	14/08/15	45	2	0.04089915	745.16	25,832.00	25,832.00	1,056.35	617.17	499.18	499.18	23.25	0.00	29.12	75.62
2	28/08/15	14	0	0.01254713	745.16	25,832.00	26,371.18	329.63	640.42	-310.79	128.39	0.00	0.00	29.12	75.62
3	11/09/15	14	1	0.01254713	745.16	25,832.00	25,960.39	325.73	454.12	-128.39	0.00	11.62	174.68	29.12	75.62
4	25/09/15	14	0	0.01254713	745.16	25,657.32	25,657.32	321.93	321.93	0.00	0.00	0.00	318.49	29.12	75.62
5	09/10/15	14	1	0.01254713	745.16	25,338.83	25,338.83	317.93	317.93	0.00	0.00	11.40	311.09	29.12	75.62
6	23/10/15	14	0	0.01254713	745.16	25,027.74	25,027.74	314.03	314.03	0.00	0.00	0.00	326.39	29.12	75.62
7	06/11/15	14	1	0.01254713	745.16	24,701.35	24,701.35	309.93	309.93	0.00	0.00	11.12	319.37	29.12	75.62
8	20/11/15	14	0	0.01254713	745.16	24,381.98	24,381.98	305.92	305.92	0.00	0.00	0.00	334.50	29.12	75.62
9	04/12/15	14	1	0.01254713	745.16	24,047.48	24,047.48	301.73	301.73	0.00	0.00	10.82	327.87	29.12	75.62
10	18/12/15	14	0	0.01254713	745.16	23,719.61	23,719.61	297.61	297.61	0.00	0.00	0.00	342.81	29.12	75.62
11	01/01/16	14	1	0.01254713	745.16	23,376.80	23,376.80	293.31	293.31	0.00	0.00	10.52	336.59	29.12	75.62
12	15/01/16	14	0	0.01254713	745.16	23,040.21	23,040.21	289.09	289.09	0.00	0.00	0.00	351.33	29.12	75.62
13	29/01/16	14	0	0.01254713	745.16	22,688.88	22,688.88	284.68	284.68	0.00	0.00	0.00	355.74	29.12	75.62
14	12/02/16	14	1	0.01254713	745.16	22,333.14	22,333.14	280.22	280.22	0.00	0.00	10.05	350.15	29.12	75.62
15	26/02/16	14	0	0.01254713	745.16	21,982.99	21,982.99	275.82	275.82	0.00	0.00	0.00	364.60	29.12	75.62
16	11/03/16	14	1	0.01254713	745.16	21,618.39	21,618.39	271.25	271.25	0.00	0.00	9.73	359.44	29.12	75.62
17	25/03/16	14	0	0.01254713	745.16	21,258.95	21,258.95	266.74	266.74	0.00	0.00	0.00	373.68	29.12	75.62
18	08/04/16	14	1	0.01254713	745.16	20,885.27	20,885.27	262.05	262.05	0.00	0.00	9.40	368.97	29.12	75.62
19	22/04/16	14	0	0.01254713	745.16	20,516.30	20,516.30	257.42	257.42	0.00	0.00	0.00	383.00	29.12	75.62
20	06/05/16	14	1	0.01254713	745.16	20,133.30	20,133.30	252.62	252.62	0.00	0.00	9.06	378.74	29.12	75.62
21	20/05/16	14	0	0.01254713	745.16	19,754.56	19,754.56	247.86	247.86	0.00	0.00	0.00	392.56	29.12	75.62
22	03/06/16	14	1	0.01254713	745.16	19,362.00	19,362.00	242.94	242.94	0.00	0.00	8.71	388.77	29.12	75.62
23	17/06/16	14	0	0.01254713	745.16	18,973.23	18,973.23	238.06	238.06	0.00	0.00	0.00	402.36	29.12	75.62
24	01/07/16	14	1	0.01254713	745.16	18,570.87	18,570.87	233.01	233.01	0.00	0.00	8.36	399.05	29.12	75.62
25	15/07/16	14	0	0.01254713	745.16	18,171.82	18,171.82	228.00	228.00	0.00	0.00	0.00	412.42	29.12	75.62
26	29/07/16	14	0	0.01254713	745.16	17,759.40	17,759.40	222.83	222.83	0.00	0.00	0.00	417.59	29.12	75.62
27	12/08/16	14	1	0.01254713	745.16	17,341.81	17,341.81	217.59	217.59	0.00	0.00	7.80	415.03	29.12	75.62
28	26/08/16	14	0	0.01254713	745.16	16,926.78	16,926.78	212.38	212.38	0.00	0.00	0.00	428.04	29.12	75.62
29	09/09/16	14	1	0.01254713	745.16	16,498.74	16,498.74	207.01	207.01	0.00	0.00	7.42	425.99	29.12	75.62
30	23/09/16	14	0	0.01254713	745.16	16,072.75	16,072.75	201.67	201.67	0.00	0.00	0.00	438.75	29.12	75.62
31	07/10/16	14	1	0.01254713	745.16	15,634.00	15,634.00	196.16	196.16	0.00	0.00	7.04	437.22	29.12	75.62
32	21/10/16	14	0	0.01254713	745.16	15,195.78	15,195.78	190.68	190.68	0.00	0.00	0.00	449.74	29.12	75.62
33	04/11/16	14	1	0.01254713	745.16	14,747.04	14,747.04	185.03	185.03	0.00	0.00	6.54	448.75	29.12	75.62
34	18/11/16	14	0	0.01254713	745.16	14,298.29	14,298.29	179.40	179.40	0.00	0.00	0.00	461.02	29.12	75.62
35	02/12/16	14	1	0.01254713	745.16	13,837.27	13,837.27	173.62	173.62	0.00	0.00	6.23	450.57	29.12	75.62
36	16/12/16	14	0	0.01254713	745.16	13,376.70	13,376.70	167.84	167.84	0.00	0.00	0.00	472.58	29.12	75.62
37	30/12/16	14	0	0.01254713	745.16	12,904.12	12,904.12	161.91	161.91	0.00	0.00	0.00	478.51	29.12	75.62
38	13/01/17	14	1	0.01254713	745.16	12,425.61	12,425.61	155.91	155.91	0.00	0.00	5.59	478.92	29.12	75.62
39	27/01/17	14	0	0.01254713	745.16	11,946.69	11,946.69	149.90	149.90	0.00	0.00	0.00	490.52	29.12	75.62
40	10/02/17	14	1	0.01254713	745.16	11,456.17	11,456.17	143.74	143.74	0.00	0.00	5.16	491.52	29.12	75.62
41	24/02/17	14	0	0.01254713	745.16	10,964.65	10,964.65	137.57	137.57	0.00	0.00	0.00	502.85	29.12	75.62
42	10/03/17	14	1	0.01254713	745.16	10,461.80	10,461.80	131.27	131.27	0.00	0.00	4.71	504.44	29.12	75.62
43	24/03/17	14	0	0.01254713	745.16	9,957.36	9,957.36	124.94	124.94	0.00	0.00	0.00	515.48	29.12	75.62
44	07/04/17	14	1	0.01254713	745.16	9,441.88	9,441.88	118.47	118.47	0.00	0.00	4.25	517.70	29.12	75.62
45	21/04/17	14	0	0.01254713	745.16	8,924.18	8,924.18	111.97	111.97	0.00	0.00	0.00	528.45	29.12	75.62
46	05/05/17	14	1	0.01254713	745.16	8,395.73	8,395.73	105.34	105.34	0.00	0.00	3.78	531.30	29.12	75.62
47	19/05/17	14	0	0.01254713	745.16	7,864.43	7,864.43	98.68	98.68	0.00	0.00	0.00	541.74	29.12	75.62
48	02/06/17	14	1	0.01254713	745.16	7,322.69	7,322.69	91.88	91.88	0.00	0.00	3.30	545.24	29.12	75.62
49	16/06/17	14	0	0.01254713	745.16	6,777.45	6,777.45	85.04	85.04	0.00	0.00	0.00	555.38	29.12	75.62
50	30/06/17	14	0	0.01254713	745.16	6,222.07	6,222.07	78.07	78.07	0.00	0.00	0.00	562.35	29.12	75.62
51	14/07/17	14	1	0.01254713	745.16	5,659.72	5,659.72	71.01	71.01	0.00	0.00	2.55	566.86	29.12	75.62
52	28/07/17	14	0	0.01254713	745.16	5,092.86	5,092.86	63.90	63.90	0.00	0.00	0.00	576.52	29.12	75.62
53	11/08/17	14	1	0.01254713	745.16	4,516.34	4,516.34	56.67	56.67	0.00	0.00	2.03	581.72	29.12	75.62
54	25/08/17	14	0	0.01254713	745.16	3,934.62	3,934.62	49.37	49.37	0.00	0.00	0.00	591.05	29.12	75.62
55	08/09/17	14	1	0.01254713	745.16	3,343.57	3,343.57	41.95	41.95	0.00	0.00	1.50	596.97	29.12	75.62
56	22/09/17	14	0	0.01254713	745.16	2,746.60	2,746.60	34.46	34.46	0.00	0.00	0.00	605.96	29.12	75.62
57	06/10/17	14	1	0.01254713	745.16	2,140.64	2,140.64	26.86	26.86	0.00	0.00	0.96	612.60	29.12	75.62
58	20/10/17	14	0	0.01254713	745.16	1,528.04	1,528.04	19.17	19.17	0.00	0.00	0.00	621.25	29.12	75.62
59	03/11/17	14	1	0.01254713	745.16	906.79	906.79	11.38	11.38	0.00	0.00	0.41	628.63	29.12	75.62
60	17/11/17	14	0	0.01254713	745.16	278.16	278.16	3.49	3.49	0.00	0.00	0.00	636.93	29.12	75.62
61	01/12/17	14	1	0.01254713	745.16	-358.77	-358.77	-4.50	-4.50	0.00	0.00	-0.16	645.08	29.12	75.62
62	15/12/17	14	0	0.01254713	745.16	-1,003.85	-1,003.85	-12.60	-12.60	0.00	0.00	0.00	653.02	29.12	75.62
63	29/12/17	14	0	0.01254713	745.16	-1,656.87	-1,656.87	-20.79	-20.79	0.00	0.00	0.00	661.21	29.12	75.62
64	12/01/18	14	1	0.01254713	745.16	-2,318.08	-2,318.08	-29.09	-29.09	0.00	0.00	-1.04	670.55	29.12	75.62
65	26/01/18	14	0	0.01254713	745.16	-2,988.63	-2,988.63	-37.50	-37.50	0.00	0.00	0.00	677.92	29.12	75.62
66	09/02/18	14	1	0.01254713	745.16	-3,666.55	-3,666.55	-46.00	-46.00	0.00	0.00	-1.65	688.07	29.12	75.62
67	23/02/18	14	0	0.01254713	745.16	-4,354.62	-4,354.62	-54.64	-54.64	0.00	0.00	0.00	695.06	29.12	75.62
68	09/03/18	14	1	0.01254713	745.16	-5,049.68	-5,049.68	-63.36	-63.36	0.00	0.00	-2.27	706.05	29.12	75.62
69	23/03/18	14	0	0.01254713	745.16	-5,755.73	-5,755.73	-72.22	-72.22	0.00	0.00	0.00	712.64	29.12	75.62
70	06/04/18	14	1	0.01254713	745.16	-6,468.37	-6,468.37	-81.16	-81.16	0.00	0.00	-2.91	724.49	29.12	75.62
71	20/04/18	14	0	0.01254713	745.16	-7,192.86	-7,192.86	-90.25	-90.25	0.00	0.00	0.00	730.67	29.12	75.62
72	04/05/18														

Aplicar la cuota y calcular el capital, interés compensatorio y seguro desgravamen por cada cuota.

	Fecha	Dias	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Saldo Capital + Int./Int. Real	Interes	Int. Dif	Int. Acum	Seg. Desgrav.	Capital	GPS
	30/06/15												
1	14/08/15	45	2	0.04089315	538.17	25,832.00	25,832.00	1,056.35	410.18	646.17	23.25	0.00	29.12
2	28/08/15	14	0	0.01254713	538.17	25,832.00	26,478.17	332.23	433.43	-101.20	544.97	0.00	29.12
3	11/09/15	14	1	0.01254713	538.17	25,832.00	26,376.97	330.96	421.81	-90.85	454.12	11.62	0.00
4	25/09/15	14	0	0.01254713	538.17	25,832.00	26,286.12	329.82	433.43	-103.61	350.51	0.00	29.12
5	09/10/15	14	1	0.01254713	538.17	25,832.00	26,182.51	328.52	421.81	-93.29	257.22	11.62	0.00
6	23/10/15	14	0	0.01254713	538.17	25,832.00	26,089.22	327.34	433.43	-106.09	151.13	0.00	29.12
7	06/11/15	14	1	0.01254713	538.17	25,832.00	25,983.13	326.01	421.81	-95.80	55.33	11.62	0.00
8	20/11/15	14	0	0.01254713	538.17	25,832.00	25,887.33	324.81	380.14	-55.33	0.00	0.00	53.29
9	04/12/15	14	1	0.01254713	538.17	25,778.71	25,778.71	323.45	323.45	0.00	0.00	11.60	98.38
10	18/12/15	14	0	0.01254713	538.17	25,680.33	25,680.33	322.21	322.21	0.00	0.00	0.00	111.22
11	01/01/16	14	1	0.01254713	538.17	25,569.11	25,569.11	320.82	320.82	0.00	0.00	11.51	101.10
12	15/01/16	14	0	0.01254713	538.17	25,468.01	25,468.01	319.55	319.55	0.00	0.00	0.00	113.88
13	29/01/16	14	0	0.01254713	538.17	25,354.13	25,354.13	318.12	318.12	0.00	0.00	0.00	115.31
14	12/02/16	14	1	0.01254713	538.17	25,238.82	25,238.82	316.67	316.67	0.00	0.00	11.36	105.40
15	26/02/16	14	0	0.01254713	538.17	25,133.42	25,133.42	315.35	315.35	0.00	0.00	0.00	118.08
16	11/03/16	14	1	0.01254713	538.17	25,015.34	25,015.34	313.87	313.87	0.00	0.00	11.26	108.30
17	25/03/16	14	0	0.01254713	538.17	24,907.04	24,907.04	312.51	312.51	0.00	0.00	0.00	120.92
18	08/04/16	14	1	0.01254713	538.17	24,786.12	24,786.12	310.99	310.99	0.00	0.00	11.15	111.29
19	22/04/16	14	0	0.01254713	538.17	24,674.83	24,674.83	309.60	309.60	0.00	0.00	0.00	123.83
20	06/05/16	14	1	0.01254713	538.17	24,551.00	24,551.00	308.04	308.04	0.00	0.00	11.05	114.34
21	20/05/16	14	0	0.01254713	538.17	24,436.66	24,436.66	306.61	306.61	0.00	0.00	0.00	126.82
22	03/06/16	14	1	0.01254713	538.17	24,309.84	24,309.84	305.02	305.02	0.00	0.00	10.94	117.47
23	17/06/16	14	0	0.01254713	538.17	24,192.37	24,192.37	303.54	303.54	0.00	0.00	0.00	129.89
24	01/07/16	14	1	0.01254713	538.17	24,062.48	24,062.48	301.92	301.92	0.00	0.00	10.83	120.68
25	15/07/16	14	0	0.01254713	538.17	23,941.80	23,941.80	300.40	300.40	0.00	0.00	0.00	133.03
26	29/07/16	14	0	0.01254713	538.17	23,808.77	23,808.77	298.73	298.73	0.00	0.00	0.00	134.70
27	12/08/16	14	1	0.01254713	538.17	23,674.07	23,674.07	297.04	297.04	0.00	0.00	10.65	125.74
28	26/08/16	14	0	0.01254713	538.17	23,548.33	23,548.33	295.46	295.46	0.00	0.00	0.00	137.97
29	09/09/16	14	1	0.01254713	538.17	23,410.36	23,410.36	293.73	293.73	0.00	0.00	10.53	129.17
30	23/09/16	14	0	0.01254713	538.17	23,281.19	23,281.19	292.11	292.11	0.00	0.00	0.00	141.32
31	07/10/16	14	1	0.01254713	538.17	23,139.87	23,139.87	290.34	290.34	0.00	0.00	10.41	132.68
32	21/10/16	14	0	0.01254713	538.17	23,007.19	23,007.19	288.67	288.67	0.00	0.00	0.00	144.76
33	04/11/16	14	1	0.01254713	538.17	22,862.43	22,862.43	286.86	286.86	0.00	0.00	10.29	136.28
34	18/11/16	14	0	0.01254713	538.17	22,726.15	22,726.15	285.15	285.15	0.00	0.00	0.00	148.28
35	02/12/16	14	1	0.01254713	538.17	22,577.87	22,577.87	283.29	283.29	0.00	0.00	10.16	139.98
36	16/12/16	14	0	0.01254713	538.17	22,437.89	22,437.89	281.53	281.53	0.00	0.00	0.00	151.90
37	30/12/16	14	0	0.01254713	538.17	22,285.99	22,285.99	279.63	279.63	0.00	0.00	0.00	153.80
38	13/01/17	14	1	0.01254713	538.17	22,132.19	22,132.19	277.70	277.70	0.00	0.00	9.96	145.77
39	27/01/17	14	0	0.01254713	538.17	21,986.42	21,986.42	275.87	275.87	0.00	0.00	0.00	157.56
40	10/02/17	14	1	0.01254713	538.17	21,828.86	21,828.86	273.89	273.89	0.00	0.00	9.82	149.72
41	24/02/17	14	0	0.01254713	538.17	21,679.14	21,679.14	272.01	272.01	0.00	0.00	0.00	161.42
42	10/03/17	14	1	0.01254713	538.17	21,517.72	21,517.72	269.99	269.99	0.00	0.00	9.68	153.76
43	24/03/17	14	0	0.01254713	538.17	21,363.96	21,363.96	268.06	268.06	0.00	0.00	0.00	165.37
44	07/04/17	14	1	0.01254713	538.17	21,198.59	21,198.59	265.98	265.98	0.00	0.00	9.54	157.91
45	21/04/17	14	0	0.01254713	538.17	21,040.68	21,040.68	264.00	264.00	0.00	0.00	0.00	169.43
46	05/05/17	14	1	0.01254713	538.17	20,871.25	20,871.25	261.87	261.87	0.00	0.00	9.39	162.17
47	19/05/17	14	0	0.01254713	538.17	20,709.08	20,709.08	259.84	259.84	0.00	0.00	0.00	173.59
48	02/06/17	14	1	0.01254713	538.17	20,535.49	20,535.49	257.66	257.66	0.00	0.00	9.24	166.53
49	16/06/17	14	0	0.01254713	538.17	20,368.96	20,368.96	255.57	255.57	0.00	0.00	0.00	177.86
50	30/06/17	14	0	0.01254713	538.17	20,191.10	20,191.10	253.34	253.34	0.00	0.00	0.00	180.09
51	14/07/17	14	1	0.01254713	538.17	20,011.01	20,011.01	251.08	251.08	0.00	0.00	9.00	173.35
52	28/07/17	14	0	0.01254713	538.17	19,837.66	19,837.66	248.91	248.91	0.00	0.00	0.00	184.52
53	11/08/17	14	1	0.01254713	538.17	19,653.14	19,653.14	246.59	246.59	0.00	0.00	8.84	178.00
54	25/08/17	14	0	0.01254713	538.17	19,475.14	19,475.14	244.36	244.36	0.00	0.00	0.00	189.07
55	08/09/17	14	1	0.01254713	538.17	19,286.07	19,286.07	241.98	241.98	0.00	0.00	8.68	182.77
56	22/09/17	14	0	0.01254713	538.17	19,103.30	19,103.30	239.69	239.69	0.00	0.00	0.00	193.74
57	06/10/17	14	1	0.01254713	538.17	18,909.56	18,909.56	237.26	237.26	0.00	0.00	8.51	187.66
58	20/10/17	14	0	0.01254713	538.17	18,721.90	18,721.90	234.91	234.91	0.00	0.00	0.00	198.52
59	03/11/17	14	1	0.01254713	538.17	18,523.38	18,523.38	232.42	232.42	0.00	0.00	8.34	192.67
60	17/11/17	14	0	0.01254713	538.17	18,330.71	18,330.71	230.00	230.00	0.00	0.00	0.00	203.43
61	01/12/17	14	1	0.01254713	538.17	18,127.28	18,127.28	227.45	227.45	0.00	0.00	8.16	197.82
62	15/12/17	14	0	0.01254713	538.17	17,929.46	17,929.46	224.96	224.96	0.00	0.00	0.00	208.47
63	29/12/17	14	0	0.01254713	538.17	17,720.99	17,720.99	222.35	222.35	0.00	0.00	0.00	211.08
64	12/01/18	14	1	0.01254713	538.17	17,509.91	17,509.91	219.70	219.70	0.00	0.00	7.88	205.85
65	26/01/18	14	0	0.01254713	538.17	17,304.06	17,304.06	217.12	217.12	0.00	0.00	0.00	216.31
66	09/02/18	14	1	0.01254713	538.17	17,087.75	17,087.75	214.40	214.40	0.00	0.00	7.69	211.34
67	23/02/18	14	0	0.01254713	538.17	16,876.41	16,876.41	211.75	211.75	0.00	0.00	0.00	221.68
68	09/03/18	14	1	0.01254713	538.17	16,654.73	16,654.73	208.97	208.97	0.00	0.00	7.49	216.97
69	23/03/18	14	0	0.01254713	538.17	16,437.76	16,437.76	206.25	206.25	0.00	0.00	0.00	227.18
70	06/04/18	14	1	0.01254713	538.17	16,210.58	16,210.58	203.40	203.40	0.00	0.00	7.29	222.74
71	20/04/18	14	0	0.01254713	538.17	15,987.84	15,987.84	200.60	200.60	0.00	0.00	0.00	232.83
72	04/05/18	14	1	0.01254713	538.17	15,755.01	15,755.01	197.68	197.				

$$\text{Cuota} = (\text{Limite Cuota Inferior} + \text{Limite Cuota Superior}) / 2$$

$$\text{Cuota} = (538.17 + 745.16) / 2 = 641.67$$

Aplicar la cuota y calcular el capital, interés compensatorio y seguro desgravamen por cada cuota.

Fecha	Dias	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Saldo Capital + Int.	Int. Real	Interes	Int. Dif.	Int. Acum.	Seg. Desgrav.	Capital	GPS	Seguro Vehi.
30/06/15														
1 14/08/15	45	2	0.04089915	641.67	25,832.00	25,832.00	1,056.35	513.68	542.67	542.67	23.25	0.00	29.12	75.62
2 28/08/15	14	0	0.01254713	641.67	25,832.00	26,374.67	330.93	536.93	-206.00	336.67	0.00	0.00	29.12	75.62
3 11/09/15	14	1	0.01254713	641.67	25,832.00	26,168.67	328.34	525.31	-196.97	139.70	11.62	0.00	29.12	75.62
4 25/09/15	14	0	0.01254713	641.67	25,832.00	25,971.70	325.87	465.57	-139.70	0.00	0.00	71.36	29.12	75.62
5 09/10/15	14	1	0.01254713	641.67	25,760.64	25,760.64	323.22	323.22	0.00	0.00	11.59	202.12	29.12	75.62
6 23/10/15	14	0	0.01254713	641.67	25,558.52	25,558.52	320.69	320.69	0.00	0.00	0.00	216.24	29.12	75.62
7 06/11/15	14	1	0.01254713	641.67	25,342.28	25,342.28	317.97	317.97	0.00	0.00	11.40	207.56	29.12	75.62
8 20/11/15	14	0	0.01254713	641.67	25,134.72	25,134.72	315.37	315.37	0.00	0.00	0.00	221.56	29.12	75.62
9 04/12/15	14	1	0.01254713	641.67	24,913.16	24,913.16	312.59	312.59	0.00	0.00	11.21	213.13	29.12	75.62
10 18/12/15	14	0	0.01254713	641.67	24,700.03	24,700.03	309.91	309.91	0.00	0.00	0.00	227.02	29.12	75.62
11 01/01/16	14	1	0.01254713	641.67	24,473.01	24,473.01	307.07	307.07	0.00	0.00	11.01	218.85	29.12	75.62
12 15/01/16	14	0	0.01254713	641.67	24,254.16	24,254.16	304.32	304.32	0.00	0.00	0.00	232.61	29.12	75.62
13 29/01/16	14	0	0.01254713	641.67	24,021.55	24,021.55	301.40	301.40	0.00	0.00	0.00	235.53	29.12	75.62
14 12/02/16	14	1	0.01254713	641.67	23,786.02	23,786.02	298.45	298.45	0.00	0.00	10.70	227.78	29.12	75.62
15 26/02/16	14	0	0.01254713	641.67	23,558.24	23,558.24	295.59	295.59	0.00	0.00	0.00	241.34	29.12	75.62
16 11/03/16	14	1	0.01254713	641.67	23,316.90	23,316.90	292.56	292.56	0.00	0.00	10.49	233.88	29.12	75.62
17 25/03/16	14	0	0.01254713	641.67	23,083.02	23,083.02	289.63	289.63	0.00	0.00	0.00	247.30	29.12	75.62
18 08/04/16	14	1	0.01254713	641.67	22,835.72	22,835.72	286.52	286.52	0.00	0.00	10.28	240.13	29.12	75.62
19 22/04/16	14	0	0.01254713	641.67	22,595.59	22,595.59	283.51	283.51	0.00	0.00	0.00	253.42	29.12	75.62
20 06/05/16	14	1	0.01254713	641.67	22,342.17	22,342.17	280.33	280.33	0.00	0.00	10.05	246.55	29.12	75.62
21 20/05/16	14	0	0.01254713	641.67	22,095.62	22,095.62	277.24	277.24	0.00	0.00	0.00	259.69	29.12	75.62
22 03/06/16	14	1	0.01254713	641.67	21,835.93	21,835.93	273.98	273.98	0.00	0.00	9.83	253.12	29.12	75.62
23 17/06/16	14	0	0.01254713	641.67	21,582.81	21,582.81	270.80	270.80	0.00	0.00	0.00	266.13	29.12	75.62
24 01/07/16	14	1	0.01254713	641.67	21,316.68	21,316.68	267.46	267.46	0.00	0.00	9.59	259.88	29.12	75.62
25 15/07/16	14	0	0.01254713	641.67	21,056.80	21,056.80	264.20	264.20	0.00	0.00	0.00	272.73	29.12	75.62
26 29/07/16	14	0	0.01254713	641.67	20,784.07	20,784.07	260.78	260.78	0.00	0.00	0.00	276.15	29.12	75.62
27 12/08/16	14	1	0.01254713	641.67	20,507.92	20,507.92	257.32	257.32	0.00	0.00	9.23	270.38	29.12	75.62
28 26/08/16	14	0	0.01254713	641.67	20,237.54	20,237.54	253.92	253.92	0.00	0.00	0.00	283.01	29.12	75.62
29 09/09/16	14	1	0.01254713	641.67	19,954.53	19,954.53	250.37	250.37	0.00	0.00	8.98	277.58	29.12	75.62
30 23/09/16	14	0	0.01254713	641.67	19,676.95	19,676.95	246.89	246.89	0.00	0.00	0.00	290.04	29.12	75.62
31 07/10/16	14	1	0.01254713	641.67	19,386.91	19,386.91	243.25	243.25	0.00	0.00	8.72	284.96	29.12	75.62
32 21/10/16	14	0	0.01254713	641.67	19,101.95	19,101.95	239.67	239.67	0.00	0.00	0.00	297.26	29.12	75.62
33 04/11/16	14	1	0.01254713	641.67	18,804.69	18,804.69	235.94	235.94	0.00	0.00	8.46	292.53	29.12	75.62
34 18/11/16	14	0	0.01254713	641.67	18,512.16	18,512.16	232.27	232.27	0.00	0.00	0.00	304.66	29.12	75.62
35 02/12/16	14	1	0.01254713	641.67	18,207.50	18,207.50	228.45	228.45	0.00	0.00	8.19	300.29	29.12	75.62
36 16/12/16	14	0	0.01254713	641.67	17,907.21	17,907.21	224.68	224.68	0.00	0.00	0.00	312.25	29.12	75.62
37 30/12/16	14	0	0.01254713	641.67	17,594.96	17,594.96	220.77	220.77	0.00	0.00	0.00	316.16	29.12	75.62
38 13/01/17	14	1	0.01254713	641.67	17,278.80	17,278.80	216.80	216.80	0.00	0.00	7.78	312.35	29.12	75.62
39 27/01/17	14	0	0.01254713	641.67	16,966.45	16,966.45	212.88	212.88	0.00	0.00	0.00	320.05	29.12	75.62
40 10/02/17	14	1	0.01254713	641.67	16,642.40	16,642.40	208.81	208.81	0.00	0.00	7.49	324.63	29.12	75.62
41 24/02/17	14	0	0.01254713	641.67	16,321.77	16,321.77	204.79	204.79	0.00	0.00	0.00	332.14	29.12	75.62
42 10/03/17	14	1	0.01254713	641.67	15,989.63	15,989.63	200.62	200.62	0.00	0.00	7.20	329.11	29.12	75.62
43 24/03/17	14	0	0.01254713	641.67	15,660.52	15,660.52	196.49	196.49	0.00	0.00	0.00	340.44	29.12	75.62
44 07/04/17	14	1	0.01254713	641.67	15,320.08	15,320.08	192.22	192.22	0.00	0.00	6.89	337.82	29.12	75.62
45 21/04/17	14	0	0.01254713	641.67	14,982.26	14,982.26	187.98	187.98	0.00	0.00	0.00	348.95	29.12	75.62
46 05/05/17	14	1	0.01254713	641.67	14,633.31	14,633.31	183.61	183.61	0.00	0.00	6.58	346.74	29.12	75.62
47 19/05/17	14	0	0.01254713	641.67	14,286.57	14,286.57	179.26	179.26	0.00	0.00	0.00	357.67	29.12	75.62
48 02/06/17	14	1	0.01254713	641.67	13,928.90	13,928.90	174.77	174.77	0.00	0.00	6.27	355.89	29.12	75.62
49 16/06/17	14	0	0.01254713	641.67	13,573.01	13,573.01	170.30	170.30	0.00	0.00	0.00	366.63	29.12	75.62
50 30/06/17	14	0	0.01254713	641.67	13,206.38	13,206.38	165.70	165.70	0.00	0.00	0.00	371.23	29.12	75.62
51 14/07/17	14	1	0.01254713	641.67	12,835.15	12,835.15	161.04	161.04	0.00	0.00	5.78	370.11	29.12	75.62
52 28/07/17	14	0	0.01254713	641.67	12,465.04	12,465.04	156.40	156.40	0.00	0.00	0.00	380.53	29.12	75.62
53 11/08/17	14	1	0.01254713	641.67	12,084.51	12,084.51	151.63	151.63	0.00	0.00	5.44	379.86	29.12	75.62
54 25/08/17	14	0	0.01254713	641.67	11,704.65	11,704.65	146.86	146.86	0.00	0.00	0.00	390.07	29.12	75.62
55 08/09/17	14	1	0.01254713	641.67	11,314.58	11,314.58	141.97	141.97	0.00	0.00	5.09	389.87	29.12	75.62
56 22/09/17	14	0	0.01254713	641.67	10,924.71	10,924.71	137.07	137.07	0.00	0.00	0.00	399.86	29.12	75.62
57 06/10/17	14	1	0.01254713	641.67	10,524.85	10,524.85	132.06	132.06	0.00	0.00	4.74	400.13	29.12	75.62
58 20/10/17	14	0	0.01254713	641.67	10,124.72	10,124.72	127.04	127.04	0.00	0.00	0.00	409.89	29.12	75.62
59 03/11/17	14	1	0.01254713	641.67	9,714.83	9,714.83	121.89	121.89	0.00	0.00	4.37	410.67	29.12	75.62
60 17/11/17	14	0	0.01254713	641.67	9,304.16	9,304.16	116.74	116.74	0.00	0.00	0.00	421.19	29.12	75.62
61 01/12/17	14	1	0.01254713	641.67	8,883.97	8,883.97	111.47	111.47	0.00	0.00	4.00	420.46	29.12	75.62
62 15/12/17	14	0	0.01254713	641.67	8,462.51	8,462.51	106.18	106.18	0.00	0.00	0.00	430.75	29.12	75.62
63 29/12/17	14	0	0.01254713	641.67	8,031.76	8,031.76	100.78	100.78	0.00	0.00	0.00	436.15	29.12	75.62
64 12/01/18	14	1	0.01254713	641.67	7,595.61	7,595.61	95.30	95.30	0.00	0.00	3.42	438.21	29.12	75.62
65 26/01/18	14	0	0.01254713	641.67	7									

iii. Para este caso se realizaron 17 iteraciones de las 60, hasta hallar un punto de no cambio.

Biseccion						
1				538.17	331.18	745.16
2	14062.83	> 0		641.67	538.17	745.16
3	373.4	> 0		693.42	641.67	745.16
4	-6471.46	< 0		667.55	641.67	693.42
5	-3049.71	< 0		654.61	641.67	667.55
6	-1338.04	< 0		648.14	641.67	654.61
7	-482.25	< 0		644.91	641.67	648.14
8	-55.09	< 0		643.29	641.67	644.91
9	159.21	> 0		644.1	643.29	644.91
10	52.01	> 0		644.51	644.1	644.91
11	-2.13	< 0		644.31	644.1	644.51
12	24.27	> 0		644.41	644.31	644.51
13	11.08	> 0		644.46	644.41	644.51
14	4.46	> 0		644.49	644.46	644.51
15	0.49	> 0		644.5	644.49	644.51
16	-0.88	< 0		644.5	644.49	644.5
17	-0.88	< 0		644.5	644.49	644.5
18		= 0		644.5	644.49	644.5
19		= 0		644.5	644.49	644.5

Donde se verifica, que la cuota calculada es 644.50. Aplicar la cuota y calcular el capital, interés compensatorio y seguro desgravamen por cada cuota.

Fecha	Dias	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Saldo Capital + Int. Real	Interes	Int. Dif.	Int. Acum.	Seg. Desgrav.	Capital	GPS	Seguro Vehi.
30/06/15													
1	14/08/15	45	2	0.04099315	644.5	25,832.00	25,832.00	1,056.35	539.84	539.84	23.25	0.00	29.12
2	28/08/15	14	0	0.01254713	644.5	25,832.00	26,371.84	330.89	539.76	-208.87	330.97	0.00	29.12
3	11/09/15	14	0	0.01254713	644.5	25,832.00	26,162.97	328.27	538.14	-199.87	131.10	11.62	0.00
4	25/09/15	14	0	0.01254713	644.5	25,832.00	25,963.10	325.76	456.86	-131.10	0.00	0.00	82.90
5	09/10/15	14	0	0.01254713	644.5	25,749.10	25,749.10	323.08	323.08	0.00	0.00	11.59	205.09
6	23/10/15	14	0	0.01254713	644.5	25,544.01	25,544.01	320.50	320.50	0.00	0.00	0.00	219.26
7	06/11/15	14	0	0.01254713	644.5	25,324.75	25,324.75	317.75	317.75	0.00	0.00	11.40	210.61
8	20/11/15	14	0	0.01254713	644.5	25,114.14	25,114.14	315.11	315.11	0.00	0.00	0.00	224.65
9	04/12/15	14	0	0.01254713	644.5	24,889.49	24,889.49	312.29	312.29	0.00	11.20	216.27	29.12
10	18/12/15	14	0	0.01254713	644.5	24,673.22	24,673.22	309.58	309.58	0.00	0.00	0.00	230.18
11	01/01/16	14	0	0.01254713	644.5	24,443.04	24,443.04	306.69	306.69	0.00	0.00	11.00	222.07
12	15/01/16	14	0	0.01254713	644.5	24,220.97	24,220.97	303.90	303.90	0.00	0.00	0.00	235.86
13	29/01/16	14	0	0.01254713	644.5	23,985.11	23,985.11	300.94	300.94	0.00	0.00	0.00	238.82
14	12/02/16	14	0	0.01254713	644.5	23,746.29	23,746.29	297.95	297.95	0.00	0.00	10.69	231.12
15	26/02/16	14	0	0.01254713	644.5	23,515.17	23,515.17	295.05	295.05	0.00	0.00	0.00	244.71
16	11/03/16	14	0	0.01254713	644.5	23,270.46	23,270.46	291.98	291.98	0.00	10.47	237.31	29.12
17	25/03/16	14	0	0.01254713	644.5	23,033.15	23,033.15	289.00	289.00	0.00	0.00	0.00	250.76
18	08/04/16	14	0	0.01254713	644.5	22,782.39	22,782.39	285.85	285.85	0.00	0.00	10.25	243.66
19	22/04/16	14	0	0.01254713	644.5	22,538.73	22,538.73	282.80	282.80	0.00	0.00	0.00	256.96
20	06/05/16	14	0	0.01254713	644.5	22,281.77	22,281.77	279.57	279.57	0.00	0.00	10.03	250.16
21	20/05/16	14	0	0.01254713	644.5	22,031.61	22,031.61	276.43	276.43	0.00	0.00	0.00	263.33
22	03/06/16	14	0	0.01254713	644.5	21,788.28	21,788.28	273.13	273.13	0.00	0.00	0.00	256.83
23	17/06/16	14	0	0.01254713	644.5	21,511.45	21,511.45	269.91	269.91	0.00	0.00	0.00	269.85
24	01/07/16	14	0	0.01254713	644.5	21,241.60	21,241.60	266.52	266.52	0.00	0.00	9.56	263.68
25	15/07/16	14	0	0.01254713	644.5	20,977.92	20,977.92	263.21	263.21	0.00	0.00	0.00	276.55
26	29/07/16	14	0	0.01254713	644.5	20,701.37	20,701.37	259.74	259.74	0.00	0.00	0.00	280.02
27	12/08/16	14	0	0.01254713	644.5	20,421.35	20,421.35	256.23	256.23	0.00	0.00	9.19	274.34
28	26/08/16	14	0	0.01254713	644.5	20,147.01	20,147.01	252.79	252.79	0.00	0.00	0.00	286.97
29	09/09/16	14	0	0.01254713	644.5	19,860.04	19,860.04	249.19	249.19	0.00	0.00	8.94	281.63
30	23/09/16	14	0	0.01254713	644.5	19,578.41	19,578.41	245.65	245.65	0.00	0.00	0.00	294.11
31	07/10/16	14	0	0.01254713	644.5	19,284.30	19,284.30	241.96	241.96	0.00	0.00	8.68	289.12
32	21/10/16	14	0	0.01254713	644.5	18,995.18	18,995.18	238.33	238.33	0.00	0.00	0.00	301.43
33	04/11/16	14	0	0.01254713	644.5	18,693.75	18,693.75	234.55	234.55	0.00	0.00	8.41	296.80
34	18/11/16	14	0	0.01254713	644.5	18,396.95	18,396.95	230.83	230.83	0.00	0.00	0.00	308.93
35	02/12/16	14	0	0.01254713	644.5	18,088.02	18,088.02	226.95	226.95	0.00	0.00	8.14	304.67
36	16/12/16	14	0	0.01254713	644.5	17,785.35	17,785.35	223.13	223.13	0.00	0.00	0.00	316.63
37	30/12/16	14	0	0.01254713	644.5	17,486.72	17,486.72	219.16	219.16	0.00	0.00	0.00	328.60
38	13/01/17	14	0	0.01254713	644.5	17,146.12	17,146.12	215.13	215.13	0.00	0.00	7.72	316.91
39	27/01/17	14	0	0.01254713	644.5	16,829.21	16,829.21	211.16	211.16	0.00	0.00	0.00	328.60
40	10/02/17	14	0	0.01254713	644.5	16,500.61	16,500.61	207.04	207.04	0.00	0.00	7.43	325.29
41	24/02/17	14	0	0.01254713	644.5	16,175.32	16,175.32	202.95	202.95	0.00	0.00	0.00	336.81
42	10/03/17	14	0	0.01254713	644.5	15,838.51	15,838.51	198.73	198.73	0.00	0.00	7.13	333.90
43	24/03/17	14	0	0.01254713	644.5	15,504.61	15,504.61	194.54	194.54	0.00	0.00	0.00	345.22
44	07/04/17	14	0	0.01254713	644.5	15,159.39	15,159.39	190.21	190.21	0.00	0.00	6.82	342.73
45	21/04/17	14	0	0.01254713	644.5	14,816.66	14,816.66	185.91	185.91	0.00	0.00	0.00	353.85
46	05/05/17	14	0	0.01254713	644.5	14,462.81	14,462.81	181.47	181.47	0.00	0.00	6.51	351.78
47	19/05/17	14	0	0.01254713	644.5	14,111.03	14,111.03	177.05	177.05	0.00	0.00	0.00	362.71
48	02/06/17	14	0	0.01254713	644.5	13,748.32	13,748.32	172.50	172.50	0.00	0.00	6.19	361.07
49	16/06/17	14	0	0.01254713	644.5	13,387.25	13,387.25	167.97	167.97	0.00	0.00	0.00	371.79
50	30/06/17	14	0	0.01254713	644.5	13,025.46	13,025.46	163.31	163.31	0.00	0.00	0.00	376.45
51	14/07/17	14	0	0.01254713	644.5	12,659.01	12,659.01	158.58	158.58	0.00	0.00	5.69	375.49
52	28/07/17	14	0	0.01254713	644.5	12,263.52	12,263.52	153.87	153.87	0.00	0.00	0.00	385.89
53	11/08/17	14	0	0.01254713	644.5	11,877.63	11,877.63	149.03	149.03	0.00	0.00	5.34	385.39
54	25/08/17	14	0	0.01254713	644.5	11,492.24	11,492.24	144.19	144.19	0.00	0.00	0.00	395.57
55	08/09/17	14	0	0.01254713	644.5	11,096.67	11,096.67	139.23	139.23	0.00	0.00	4.99	395.54
56	22/09/17	14	0	0.01254713	644.5	10,701.13	10,701.13	134.27	134.27	0.00	0.00	0.00	405.49
57	06/10/17	14	0	0.01254713	644.5	10,295.64	10,295.64	129.18	129.18	0.00	0.00	4.63	405.95
58	20/10/17	14	0	0.01254713	644.5	9,879.99	9,879.99	124.09	124.09	0.00	0.00	0.00	415.67
59	03/11/17	14	0	0.01254713	644.5	9,474.02	9,474.02	118.87	118.87	0.00	0.00	0.00	426.16
60	17/11/17	14	0	0.01254713	644.5	9,057.39	9,057.39	113.64	113.64	0.00	0.00	0.00	426.12
61	01/12/17	14	0	0.01254713	644.5	8,631.27	8,631.27	108.30	108.30	0.00	0.00	3.88	427.58
62	15/12/17	14	0	0.01254713	644.5	8,203.69	8,203.69	102.93	102.93	0.00	0.00	0.00	436.83
63	29/12/17	14	0	0.01254713	644.5	7,766.86	7,766.86	97.45	97.45	0.00	0.0		

b. Ajuste de última cuota

Si el saldo capital es diferente de cero, se debe realizar un ajuste al capital de la última cuota:

$$\text{Capital} = \text{Capital} + \text{Saldo Capital}$$

$$\text{Capital} = 533.08 + (-0.88)$$

$$\text{Capital} = 532.2$$

Fecha	Dias	Periodos	Tasa Efectiva	Cuota	Saldo Capital	Saldo Capital + Int.	Int. Real	Interes	Int. Dif	Int. Acum	Seg. Desgrav.	Capital	GPS
30/06/15													
1 14/08/15	45	2	0.04089315	644.5	25,832.00	25,832.00	1,056.35	516.51	539.84	539.84	23.25	0.00	29.12
2 28/08/15	14	0	0.01254713	644.5	25,832.00	26,371.84	330.89	539.76	-208.87	330.97	0.00	0.00	29.12
3 11/09/15	14	1	0.01254713	644.5	25,832.00	26,162.97	328.27	528.14	-199.87	131.10	11.62	0.00	29.12
4 25/09/15	14	0	0.01254713	644.5	25,832.00	25,963.10	325.76	456.86	-131.10	0.00	0.00	82.90	29.12
5 09/10/15	14	1	0.01254713	644.5	25,749.10	25,749.10	323.08	323.08	0.00	0.00	11.59	205.09	29.12
6 23/10/15	14	0	0.01254713	644.5	25,544.01	25,544.01	320.50	320.50	0.00	0.00	0.00	219.26	29.12
7 06/11/15	14	1	0.01254713	644.5	25,324.75	25,324.75	317.75	317.75	0.00	0.00	11.40	210.61	29.12
8 20/11/15	14	0	0.01254713	644.5	25,114.14	25,114.14	315.11	315.11	0.00	0.00	0.00	224.65	29.12
9 04/12/15	14	1	0.01254713	644.5	24,889.49	24,889.49	312.29	312.29	0.00	0.00	11.20	216.27	29.12
10 18/12/15	14	0	0.01254713	644.5	24,673.22	24,673.22	309.58	309.58	0.00	0.00	0.00	230.18	29.12
11 01/01/16	14	1	0.01254713	644.5	24,443.04	24,443.04	306.69	306.69	0.00	0.00	11.00	222.07	29.12
12 15/01/16	14	0	0.01254713	644.5	24,220.97	24,220.97	303.90	303.90	0.00	0.00	0.00	235.86	29.12
13 29/01/16	14	0	0.01254713	644.5	23,985.11	23,985.11	300.94	300.94	0.00	0.00	0.00	238.82	29.12
14 12/02/16	14	1	0.01254713	644.5	23,746.29	23,746.29	297.95	297.95	0.00	0.00	10.69	231.12	29.12
15 26/02/16	14	0	0.01254713	644.5	23,515.17	23,515.17	295.05	295.05	0.00	0.00	0.00	244.71	29.12
16 11/03/16	14	1	0.01254713	644.5	23,270.46	23,270.46	291.98	291.98	0.00	0.00	10.47	237.31	29.12
17 25/03/16	14	0	0.01254713	644.5	23,033.15	23,033.15	289.00	289.00	0.00	0.00	0.00	250.76	29.12
18 08/04/16	14	1	0.01254713	644.5	22,782.39	22,782.39	285.85	285.85	0.00	0.00	10.25	243.66	29.12
19 22/04/16	14	0	0.01254713	644.5	22,538.73	22,538.73	282.80	282.80	0.00	0.00	0.00	256.96	29.12
20 06/05/16	14	1	0.01254713	644.5	22,281.77	22,281.77	279.57	279.57	0.00	0.00	10.03	250.16	29.12
21 20/05/16	14	0	0.01254713	644.5	22,031.61	22,031.61	276.43	276.43	0.00	0.00	0.00	263.33	29.12
22 03/06/16	14	1	0.01254713	644.5	21,768.28	21,768.28	273.13	273.13	0.00	0.00	9.80	256.83	29.12
23 17/06/16	14	0	0.01254713	644.5	21,511.45	21,511.45	269.91	269.91	0.00	0.00	0.00	269.85	29.12
24 01/07/16	14	1	0.01254713	644.5	21,241.60	21,241.60	266.52	266.52	0.00	0.00	9.56	263.68	29.12
25 15/07/16	14	0	0.01254713	644.5	20,977.92	20,977.92	263.21	263.21	0.00	0.00	0.00	276.55	29.12
26 29/07/16	14	0	0.01254713	644.5	20,701.37	20,701.37	259.74	259.74	0.00	0.00	0.00	280.02	29.12
27 12/08/16	14	1	0.01254713	644.5	20,421.35	20,421.35	256.23	256.23	0.00	0.00	9.19	274.34	29.12
28 26/08/16	14	0	0.01254713	644.5	20,147.01	20,147.01	252.79	252.79	0.00	0.00	0.00	286.97	29.12
29 09/09/16	14	1	0.01254713	644.5	19,860.04	19,860.04	249.19	249.19	0.00	0.00	8.94	281.63	29.12
30 23/09/16	14	0	0.01254713	644.5	19,578.41	19,578.41	245.65	245.65	0.00	0.00	0.00	294.11	29.12
31 07/10/16	14	1	0.01254713	644.5	19,284.30	19,284.30	241.96	241.96	0.00	0.00	8.68	289.12	29.12
32 21/10/16	14	0	0.01254713	644.5	18,995.18	18,995.18	238.33	238.33	0.00	0.00	0.00	301.43	29.12
33 04/11/16	14	1	0.01254713	644.5	18,693.75	18,693.75	234.55	234.55	0.00	0.00	8.41	296.80	29.12
34 18/11/16	14	0	0.01254713	644.5	18,396.95	18,396.95	230.83	230.83	0.00	0.00	0.00	308.93	29.12
35 02/12/16	14	1	0.01254713	644.5	18,088.02	18,088.02	226.95	226.95	0.00	0.00	8.14	304.67	29.12
36 16/12/16	14	0	0.01254713	644.5	17,783.35	17,783.35	223.13	223.13	0.00	0.00	0.00	316.63	29.12
37 30/12/16	14	0	0.01254713	644.5	17,466.72	17,466.72	219.16	219.16	0.00	0.00	0.00	320.60	29.12
38 13/01/17	14	1	0.01254713	644.5	17,146.12	17,146.12	215.13	215.13	0.00	0.00	7.72	316.91	29.12
39 27/01/17	14	0	0.01254713	644.5	16,829.21	16,829.21	211.16	211.16	0.00	0.00	0.00	328.60	29.12
40 10/02/17	14	1	0.01254713	644.5	16,500.61	16,500.61	207.04	207.04	0.00	0.00	7.43	325.29	29.12
41 24/02/17	14	0	0.01254713	644.5	16,175.32	16,175.32	202.95	202.95	0.00	0.00	0.00	336.81	29.12
42 10/03/17	14	1	0.01254713	644.5	15,838.51	15,838.51	198.73	198.73	0.00	0.00	7.13	333.90	29.12
43 24/03/17	14	0	0.01254713	644.5	15,504.61	15,504.61	194.54	194.54	0.00	0.00	0.00	345.22	29.12
44 07/04/17	14	1	0.01254713	644.5	15,159.39	15,159.39	190.21	190.21	0.00	0.00	6.82	342.73	29.12
45 21/04/17	14	0	0.01254713	644.5	14,816.66	14,816.66	185.91	185.91	0.00	0.00	0.00	353.85	29.12
46 05/05/17	14	1	0.01254713	644.5	14,462.81	14,462.81	181.47	181.47	0.00	0.00	6.51	351.78	29.12
47 19/05/17	14	0	0.01254713	644.5	14,111.03	14,111.03	177.05	177.05	0.00	0.00	0.00	362.71	29.12
48 02/06/17	14	1	0.01254713	644.5	13,748.32	13,748.32	172.50	172.50	0.00	0.00	6.19	361.07	29.12
49 16/06/17	14	0	0.01254713	644.5	13,387.25	13,387.25	167.97	167.97	0.00	0.00	0.00	371.79	29.12
50 30/06/17	14	0	0.01254713	644.5	13,015.46	13,015.46	163.31	163.31	0.00	0.00	0.00	376.45	29.12
51 14/07/17	14	1	0.01254713	644.5	12,639.01	12,639.01	158.58	158.58	0.00	0.00	5.69	375.49	29.12
52 28/07/17	14	0	0.01254713	644.5	12,263.52	12,263.52	153.87	153.87	0.00	0.00	0.00	385.89	29.12
53 11/08/17	14	1	0.01254713	644.5	11,877.63	11,877.63	149.03	149.03	0.00	0.00	5.34	385.39	29.12
54 25/08/17	14	0	0.01254713	644.5	11,492.24	11,492.24	144.19	144.19	0.00	0.00	0.00	395.57	29.12
55 08/09/17	14	1	0.01254713	644.5	11,096.67	11,096.67	139.23	139.23	0.00	0.00	4.99	395.54	29.12
56 22/09/17	14	0	0.01254713	644.5	10,701.13	10,701.13	134.27	134.27	0.00	0.00	0.00	405.49	29.12
57 06/10/17	14	1	0.01254713	644.5	10,295.64	10,295.64	129.18	129.18	0.00	0.00	4.63	405.95	29.12
58 20/10/17	14	0	0.01254713	644.5	9,889.69	9,889.69	124.09	124.09	0.00	0.00	0.00	415.67	29.12
59 03/11/17	14	1	0.01254713	644.5	9,474.02	9,474.02	118.87	118.87	0.00	0.00	4.26	416.63	29.12
60 17/11/17	14	0	0.01254713	644.5	9,057.39	9,057.39	113.64	113.64	0.00	0.00	0.00	426.12	29.12
61 01/12/17	14	1	0.01254713	644.5	8,631.27	8,631.27	108.30	108.30	0.00	0.00	3.88	427.58	29.12
62 15/12/17	14	0	0.01254713	644.5	8,203.69	8,203.69	102.93	102.93	0.00	0.00	0.00	436.83	29.12
63 29/12/17	14	0	0.01254713	644.5	7,766.86	7,766.86	97.45	97.45	0.00	0.00	0.00	442.31	29.12
64 12/01/18	14	1	0.01254713	644.5	7,324.55	7,324.55	91.90	91.90	0.00	0.00	3.30	444.56	29.12
65 26/01/18	14	0	0.01254713	644.5	6,879.99	6,879.99	86.32	86.32	0.00	0.00	0.00	453.44	29.12
66 09/02/18	14	1	0.01254713	644.5	6,426.55	6,426.55	80.63	80.63	0.00	0.00	2.89	456.24	29.12
67 23/02/18	14	0	0.01254713	644.5	5,970.31	5,970.31	74.91	74.91	0.00	0.00	0.00	464.85	29.12
68 09/03/18	14	1	0.01254713	644.5	5,505.46	5,505.46	69.08	69.08	0.00	0.00	2.48	468.20	29.12
69 23/03/18	14	0	0.01254713	644.5	5,037.26	5,037.26	63.20	6					

CASO 3: Cliente tiene una cuota que venció el 09/02/2022 con un saldo de capital de cuota de S/102.30 y una tasa de interés efectiva moratoria de 12.51%. Determinar el interés moratorio a pagar para el día 15/02/2022.

Tasa Interés Moratoria Anual (i): 12.51%

Tasa de Interés Moratoria Nominal Anual (TNMA): 11.79%

Capital Cuota vencida (Kcv): 102.30

Fecha Vencimiento: 09/02/2022

Fecha Pago: 15/02/2022

1. Calcular días de atraso

$Días = Fecha\ Pago - Fecha\ Vencimiento$

Días = 15/02/2022 – 09/02/2022 = 6

D=6

2. La tasa de interés Moratoria Anual ajustada a tasa diaria es:

$TMD = ((1+12.51\%)^{1/360})-1$

TMD = 0.032748

3. Calculo tasa nominal moratoria anual:

$TNMA = TMD * 360$

TNMA = 0.032748*360

TNMA = 11.79%

4. Calcular interés moratorio

$Interés\ Moratorio = ((TNMA/360) * Kcv * D) / 100$

Interés Moratorio = (11.79/360) * 102.30 * 6

Interés Moratorio = (0.0326944 * 102.30 * 6) / 100

Interés Moratorio = S/ 0.2010