

## Extra Calculator Problems

Mackenzie wants to buy a new Mercedes. The cost is \$80,000. Eric will put 10% and pay the rest in 5 equal annual payments which include interest at 8%. How much are the payments?

**\$ 18,032.86**

If Eric amortizes the above loan correctly, what would be the interest expense for the second year?

<u>Year</u>	<u>Payments</u>	<u>Interest 8%</u>	<u>Principal</u>	<u>Ending Principal Balance</u>
Cost				80,000.00
Down	8,000.00		8,000.00	72,000.00
1	18,032.86	5,760.00	12,272.86	59,727.14
2	18,032.86	4,778.17	13,254.69	46,472.45
3	18,032.86	3,717.80	14,315.06	32,157.39
4	18,032.86	2,572.59	15,460.27	16,697.12
5	18,032.86	1,335.77	16,697.09	.03 rounding

If Mackenzie amortizes the loan correctly, what would be the principal balance after the third payment?

**\$ 32,157.39**

If Mackenzie made 60 monthly payments (deal still the same, 10% down and 8% interest), what would be the amount of the each payment?

**\$ 1,459.90**

Still on monthly payments, what would be the interest expense for the second month?

<u>Month</u>	<u>Payment</u>	<u>Interest 8%</u>	<u>Principal</u>	<u>Ending Principal Balance</u>
Cost				80,000.00
Down	8,000.00		8,000.00	72,000.00
1	1,459.90	480.00	979.90	71,020.10
2	1,459.90	473.47		

Suzie want to have \$1,000,000 in the bank in thirty years. If the bank pays interest at 6% compounded semi-annually, how much does she need to deposit today to reach her goal?

**\$ 169,733.09**

Matthew wants to withdraw \$1,000 per month for the next 5 years. She will withdraw her first amount in one month. The bank pays interest at 12% compounded monthly. How much does she need to deposit today to do this?

**\$ 44,955.04**

Heather hit the lottery!! She has the option of taking 560,000 today or 100,000 per year for the next 8 years of \$1,000,000 in ten years. If she can deposit her money at 8%, ignoring taxes, which deal should she take?

<u>Options</u>	<u>Present Value</u>
\$ 560,000 cash today	\$ 560,000.00
\$ 100,000 per year for next 8 years	574,663.89 Highest
\$ 1,000,000 ten years from today	463,193.49