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**Problem Set: Amortization**

**(Solutions Below)**

**Amortization**

1. Complete the amortization table for a three year loan of $2,000 at 9%.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | Beginning Balance | Total Payment | Interest Payment | Principal Payment | End Balance |
|
| 1 |   |   |   |   |   |
| 2 |   |   |   |   |   |
| 3 |   |   |   |   |   |

1. Complete the amortization table for a three year loan of $5,000 at 4%.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | Beginning Balance | Total Payment | Interest Payment | Principal Payment | End Balance |
|
| 1 |   |   |   |   |   |
| 2 |   |   |   |   |   |
| 3 |   |   |   |   |   |

**Solutions**

**Amortization**

1. Complete the amortization table for a three year loan of $2,000 at 9%.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | Beginning Balance | Total Payment | Interest Payment | Principal Payment | End Balance |
|
| 1 | $2,000.00 | $790.11  | $180.00 | $610.11  | $1,389.89 |
| 2 | $1,389.89 | $790.11  | $125.09 | $665.02  | $724.87 |
| 3 | $724.87 | $790.11  | $65.24 | $724.87  | $0.00 |

Total Payment:

P/Y = 1; N = 3; I/Y = 9; PV = -2,000; PMT = **$790.11**; FV = 0

Steps:

1. Beginning Balance (Year 1) = Loan amount = $2,000
2. Interest Payment = Interest Rate x Beginning Balance
3. Principal Payment = Total Payment – Interest Payment
4. End Balance = Beginning Balance – Principal Payment
5. Beginning Balance = End Balance (previous year)
6. Complete the amortization table for a three year loan of $5,000 at 4%.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | Beginning Balance | Total Payment | Interest Payment | Principal Payment | End Balance |
|
| 1 | $5,000.00 | $1,801.74  | $200.00 | $1,601.74  | $3,398.26 |
| 2 | $3,398.26 | $1,801.74  | $135.93 | $1,665.81  | $1,732.44 |
| 3 | $1,732.44 | $1,801.74  | $69.30 | $1,732.44  | $0.00 |

Total Payment:

P/Y = 1; N = 3; I/Y = 4; PV = -5,000; PMT = **$1,801.74**; FV = 0

Steps (as above)