CREDIT CARD, PAYDAY AND PERSONAL LOANS – A COMPARISON USING $10,000 FOR 1 YEAR

1. Credit Card

Assumptions:
Interest rate: 18% per annum (annual percentage rate or APR)
Monthly payment: 3% of the outstanding balance or a minimum of $200, whichever is higher
No annual fee

Calculations:
Monthly interest rate: 18% / 12 = 1.5% (remember a rate is a percentage so divide by 100 to convert it to a decimal number)
Initial balance: $10,000

For simplicity, we'll assume the minimum payment is $200 throughout the year (though it would decrease as the balance decreases). Using the minimum payment of $200, the monthly interest and principal payments can be calculated. For simplicity, we'll outline the first few months.

Month 1:
Interest: $10,000 x 0.015 = $150
Principal payment: $200 - $150 = $50
New balance: $10,000 - $50 = $9,950

Month 2:
Interest: $9,950 x 0.015 = $149.25
Principal payment: $200 - $149.25 = $50.75
New balance: $9,950 - $50.75 = $9,899.25
Repeating similar calculations for each month, the total interest paid over 12 months would be approximately $1,745.

Total cost over 12 months:
Total interest paid: Approx. $1,745
Total amount paid: $10,000 + $1,745 = $11,745

2. Payday loans

Payday loans are notorious for their extremely high annual percentage rates (made up of fees and high rates), often ranging from 300% to 700% or even higher. However, we will calculate using an APR of 400% for the payday loan, which is within the typical range for these types of loans.

Assumptions:
Interest rate: 400% per annum (APR)
Loan term: 2 weeks (repeated rollovers for one year)
Fee: 400/26 = approximately 15% per two-week period

Calculations:
Fee for 2 weeks: $10,000 x 0.15 = $1,500
Total repayment in 2 weeks: $10,000 + $1,500 = $11,500

If the loan is rolled over every 2 weeks for one year (26 periods) and interest paid every two weeks (not capitalised).

Total cost for 1 year:
Total fee for one year: $1,500 x 26 = $39,000
Total amount paid: $10,000 + $39,000 = $49,000

Note: If you had to borrow the interest (1,500) as well as the principal (10,000) every month, this would be much higher

3. Personal loans

Assumptions:
Interest rate: 10% per annum (APR)
Loan term: 1 year (12 months)
No additional fees

To pay principal and interest monthly to end up with a zero balance we work out how much we need to pay per month.

Calculations:
Monthly interest rate: 10% / 12 = 0.8333%
Monthly payment (using amortisation formula):
$M = P \times [(i \times (1 + i)^n)/((1 + i)^n - 1)]$

Where:
P = principal loan amount ($10,000)
i = monthly interest rate (0.008333)
n = number of payments (12)

$M = 10000 \times [(0.008333 \times (1+0.008333)^{12})/((1+0.008333)^{12} - 1)]$
= $879.16 paid per month to reduce the loan to zero after 12 months

Total cost over 12 months:
Total amount paid: $879.16 x 12 = $10,549.92
Total interest paid: $10,549.92 - $10,000 = $549.92

Summary of Costs:

Credit Card: Approx. $1,745 in interest for one year
Payday Loan: $39,000 in interest and fees for one year (26 periods of 2 weeks)
Personal Loan: $549.92 in interest over one year

The personal loan is by far the cheapest option for borrowing $10,000 over one year, followed by the credit card. The payday loan is extremely costly due to its high fees and frequent rollovers.

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