

Gordon wants to invest \$2000.00. His bank offers an investment option that earns simple interest at a rate of 1.75% per year for 3 years.

$$I = Prt$$

$$I = (2000)(0.0175)(3)$$

$$I = \$105.00$$

Given:


$P = 2000.00$

$r = 0.0175$

$t = 3$

Dec 7-10:28 AM

Betty-Ann's bank offers a simple interest rate of 4% per annum. How much interest would Betty Ann earn on her investment of \$4000 after 8 months.



$$I = Prt$$

$$I = (4000)(0.04)\left(\frac{8}{12}\right)$$

(per annum)  
(per year)

$$I = (4000)(0.04)\left(\frac{2}{3}\right)$$

Given:

$P = \$4000$

$r = 0.04$

$t = \frac{8}{12} = \frac{2}{3}$

Dec 7-10:28 AM

### Terminology Tango

daily	365 times a year ( $n=365$ )
semi-annually	twice a year ( $n=2$ )
monthly	twelve times a year ( $n=12$ )
quartly	four times a year ( $n=4$ )
weekly	52 times a year ( $n=52$ )
biweekly	26 times a year ( $n=26$ )
semi-monthly	24 times a year ( $n=24$ )
annually	1 time each year ( $n=1$ )

Dec 7-10:24 AM

Calculate the final value of an initial investment of \$6000.00. Interest is paid at 4% per annum, compounded semi-annually, for three years.

A = final value of the investment ... (principal + interest)  
 P = principal  
 r = annual interest rate  
 n = number of compounding periods in a year  
 t = term of the investment or loan in number of years

Given:

$P = 6000$

$r = 0.04$

$n = 2$

$t = 3$

$$A = P \left(1 + \frac{r}{n}\right)^{nt}$$

$$A = 6000 \left(1 + \frac{0.04}{2}\right)^{(2)(3)}$$

$$A = 6000 (1 + 0.02)^6$$

$$A = 6000 (1.02)^6$$

$$A = 6000 (1.1262)$$

$$A = \$6756.97$$

Dec 7-10:26 AM

Troy borrows \$5620.00 to purchase a four wheeler. He takes out personal loan from his credit union at an annual rate of 5.5% with an amortization period of 5 years. Use the personal loan payment calculator table (page 132) to answer the questions.

**Important**

**PERSONAL LOAN PAYMENT CALCULATOR: MONTHLY PAYMENT FOR \$1000.00 BORROWED (INTEREST COMPOUNDED MONTHLY)**

Interest rate (%)	Term in years				
	1	2	3	4	5
3.00	84.69	42.98	29.08	22.13	17.97
3.25	84.91	43.09	29.19	22.24	18.06
3.50	85.61	43.87	29.97	23.03	18.87
3.75	85.72	43.98	30.08	23.14	18.95
4.00	85.94	44.10	30.20	23.26	19.10
4.25	86.56	44.21	30.31	23.37	19.22
4.50	86.07	44.32	30.42	23.49	19.33
4.75	86.18	44.43	30.54	23.60	19.45
5.00	86.30	44.55	30.65	23.71	19.57
5.25	86.41	44.66	30.76	23.83	19.68
5.50	86.53	44.77	30.88	23.95	19.80

- What is Troy's monthly payment?  
 (i)  $\frac{5620}{1000} = 5.62$  (Amount Borrowed)  
 (ii)  $5.62 \times 18.87 = 106.05$   
 $= \$106.05$
- Calculate the total amount he will pay over the 5 years. (60 months)  
 $106.05 \times 60 = \$6363.00$
- Calculate the finance charge on the loan.  
 $6363.00 - 5620.00 = \$743.00$

Dec 7-10:25 AM

John is purchasing a new car which costs \$42,000.00. He has a down payment of \$5000.00. He takes out a personal loan from his local bank at an annual rate of 5.75% with an amortization period of 4 years. (Use 1.15% HST)

**Important**  
 Tax first then subtract down payment

**PERSONAL LOAN PAYMENT CALCULATOR: MONTHLY PAYMENT FOR \$1000 BORROWED (INTEREST COMPOUNDED MONTHLY)**

Interest rate (%)	Term in years				
	1	2	3	4	5
3.00	84.69	42.98	29.08	22.13	17.97
3.25	84.91	43.09	29.19	22.24	18.06
3.50	85.61	43.87	29.97	23.03	18.87
3.75	85.72	43.98	30.08	23.14	18.95
4.00	85.94	44.10	30.20	23.26	19.10
4.25	86.56	44.21	30.31	23.37	19.22
4.50	86.07	44.32	30.42	23.49	19.33
4.75	86.18	44.43	30.54	23.60	19.45
5.00	86.30	44.55	30.65	23.71	19.57
5.25	86.41	44.66	30.76	23.83	19.68
5.50	86.53	44.77	30.88	23.95	19.80

- What is John's monthly payment?  
 (i)  $42000.00 - 5000.00 = 37000.00$   
 $37000.00 \times 1.15 = 42550.00$   
 $\frac{42550.00}{1000} = 42.55$   
 (ii)  $42.55 \times 23.37 = 993.21$   
 $= \$993.21$
- Calculate the total amount he will pay over the 4 years. (48 months)  
 $993.21 \times 48 = \$47673.21$
- Calculate the finance charge on the loan.  
 $47673.21 - 37000.00 = \$10673.21$

Dec 7-10:21 AM

Jack is purchasing a new trailer which costs \$36 000.00. He is trading in his old trailer which they valued at \$15 000.00. He takes out a personal loan from his local bank at an annual rate of 5.25% and an amortization period of 5 years. (Use 15% HST)

*Subtract the trade in value then figure out tax. Important*

**PERSONAL LOAN PAYMENT CALCULATOR**  
MONTHLY PAYMENT PER \$100 BORROWED (INTEREST COMPOUNDED MONTHLY)

Interest rate (%)	Term in years				
	1	2	3	4	5
3.00	84.69	42.98	29.08	22.13	17.87
3.25	84.81	43.02	29.19	22.14	17.89
3.50	85.01	43.27	29.37	22.33	18.07
3.75	85.27	43.58	29.60	22.54	18.27
4.00	85.64	44.10	30.00	23.06	18.69
4.25	86.05	44.71	30.51	23.67	19.22
4.50	86.51	45.42	31.14	24.39	19.83
4.75	87.03	46.23	31.89	25.22	20.52
5.00	87.61	47.15	32.76	26.16	21.29
5.25	88.25	48.18	33.75	27.22	22.14
5.50	88.95	49.33	34.87	28.41	23.07
5.75	89.71	50.60	36.12	29.74	24.08
6.00	90.54	52.00	37.51	31.22	25.17
6.25	91.43	53.53	39.04	32.86	26.34
6.50	92.38	55.20	40.72	34.66	27.60
6.75	93.39	57.01	42.56	36.62	28.95
7.00	94.46	58.97	44.57	38.75	30.49

1. What is Jack's monthly payment

(i)  $36000 - 15000 = 21000$   
 $21000 \times 1.15 = 24150$   
 $24150 \times 18.99 = 458.61$

(ii)  $21000 \times 1.15 = 24150$   
 $24150 \times 18.99 = 458.61$

2. Calculate the total amount he will pay over the 5 years. (60 months)  
 $458.61 \times 60 = 27516.60$

3. Calculate the finance charge on the loan.  
 $27516.60 - 24150 = 3366.60$

Dec 7-10:21 AM

Match the correct letter next to each problem.

1. q	a. an agreement with a bank that allows you to withdraw more money from an account than you have in it
2. h	b. failure to repay a loan
b	c. an item of economic value owned by an individual that could be converted to cash
3. default	d. $I = Prt$
4. n	e. an agreement in which a borrower receives something of value, and agrees to pay for it later
p	f. banking that is done over the internet; by telephone; or ATM
a	g. an item of value pledged by a borrower to secure a loan
o	h. a secret number (password) to help protect your identity
f	i. an approved loan amount that you can draw on as needed, with interest
j	j. an estimate of the time it takes to double the investment
k	k. a partial payment sometimes required at the time of purchase
s	l. money earned on an investment or a fee paid for borrowing money
d	m. the time between calculations of interest
l	

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13. l	interest	m. the time between calculations of interest
t	compound interest	n. a withdrawal of cash from an ATM or bank teller charged to a credit card
14. m	compounding period	o. the original amount invested or borrowed
15. i	line of credit	p. banking that is done with the help of a teller
16. v	loan	q. the time in years for an investment or loan
17. w	payday loan	r. the total amount of interest paid to borrow a sum of money
18. u	amortization period	s. any activity recorded on your bank statement (cash withdrawal, deposit, money transfer, bill payment, etc)
19. g	collateral	t. the interest paid on the principal PLUS interest
20. e	credit	u. the time required to pay back a loan
21. c	asset	v. money that is borrowed for a specific term, to be paid back with interest
r	finance charge	w. a small, short-term loan with a high interest rate intended to cover the borrower's expenses until their next pay day

Nov 12-12:42 PM

CANADA Statement Dates: Nov. 1, 2011 - Nov. 31, 2011

Transaction Date	Posting Date	Activity description	Amount (\$)
PREVIOUS STATEMENT BALANCE			\$421.57
Nov. 02	Nov. 03	PAYMENT - THANK YOU	(\$421.57)
Nov. 06	Nov. 07	SHOES	\$55.00
Nov. 20	Nov. 21	Burger King	\$10.79
Nov. 25	Nov. 27	Irving Oil	\$50.38
Payment Information			Calculating your balance
Minimum payment	Dec. 10	Previous balance	\$
Payment due date		Payments & credits	\$
Credit Limit	\$4,000.00	Purchases	\$
Available credit		Cash advances	\$
Annual interest rate	19.50%	Interest	\$
		Other fees	\$
		New Balance	\$

1. The interest rate is: 19.5%  
 2. What is the previous balance? \$421.57  
 3. How much was her payment? \$421.57  
 4. How much does she still owe after her payment? \$0  
 5. What did she purchase in November? Shoes, Burger King (2x), Irving Oil (gas)  
 6. Calculate the new balance.  
 7. What will her minimum payment be? \$0  
 8. What is her available credit? \$3083.83  
 9. If she pays the balance on December 9th, how much interest will she have to pay?  
No Interest

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Interest rate (%)	Term in years				
	1	2	3	4	5
3.25	84.61	43.03	29.19	22.24	18.06
3.50	84.81	43.27	29.37	22.33	18.18
3.75	85.07	43.58	29.60	22.54	18.39
4.00	85.44	44.10	30.00	23.06	18.69
4.25	85.94	44.71	30.51	23.67	19.10
4.50	86.51	45.42	31.14	24.39	19.60
4.75	87.14	46.23	31.89	25.22	20.19
5.00	87.83	47.15	32.76	26.16	20.87
5.25	88.58	48.18	33.75	27.22	21.64
5.50	89.39	49.33	34.87	28.41	22.50
5.75	90.26	50.60	36.12	29.74	23.45
6.00	91.19	52.00	37.51	31.22	24.50
6.25	92.18	53.53	39.04	32.86	25.65
6.50	93.23	55.20	40.72	34.66	26.90
6.75	94.34	57.01	42.56	36.62	28.25
7.00	95.51	58.97	44.57	38.75	29.80

Sally borrowed \$3500 at 6.25% interest for 5 years.

a) What is her monthly payment?  
 $3500 = 3.5$   
 $19.45 \times 3.5 = 68.08$

b) How much does she pay back to the bank in total?  
 $60 \times 68.08 = 4084.80$

c) What is the finance charge?  
 $4084.80 - 3500 = 584.80$

1. Randy has invested \$3000 in a savings account which earns 5.21% interest compounded quarterly. How much will his investment be worth after 5 years?  
 $A = P(1 + \frac{r}{n})^{nt}$   
 $A = 3000(1 + \frac{0.0521}{4})^{20}$   
 $A = 3000(1.013025)^{20}$   
 $A = 3000(1.295398123)$   
 $A = 3886.19$

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15% interest for 5 years.

1. Randy has invested \$3000 in a savings account which earns 5.21% interest per annum, compounded quarterly.  
 a) How much will his investment be worth after 5 years?  
 $A = P(1 + \frac{r}{n})^{nt}$   
 $A = 3000(1 + \frac{0.0521}{4})^{20}$   
 $A = 3000(1.013025)^{20}$   
 $A = 3000(1.295398123)$   
 $A = 3886.19$

b) How much interest did he earn?  
 $3886.19 - 3000 = 886.19$

2. Fred has a Self Service Account from the Bank of Atlantic Canada, during the past month she withdrew \$50 from a Royal Bank machine, purchased \$100 worth of travelers cheques, paid the telephone bill using internet banking, and wrote 14 cheques. If his balance was \$2500 how much did he pay in service fees? (page 96 will help)  
 $\$450$

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