

Accounting  
October 5, 2016

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# Compound Interest Formula

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

**P** = principal amount (the initial amount you borrow or deposit)

**r** = annual rate of interest (as a decimal)

**t** = number of years the amount is deposited or borrowed for.

**A** = amount of money accumulated after n years, including interest.

**n** = number of times the interest is compounded per year

# Example

- An amount of \$1,500.00 is deposited in a bank paying an annual interest rate of 4.3%, compounded *quarterly*. What is the balance after 6 years?

Using the compound interest formula, we have that

$P = 1500$ ,  $r = 4.3/100 = 0.043$ ,  $n = 4$ ,  $t = 6$ . Therefore

$$A = 1500 \left( 1 + \frac{0.043}{4} \right)^{4(6)} \approx \$1,938.84$$