Exponential Functions With Base "e"

"e" is an irrational number approximately equal to 2.71828.

Definition **Continuously Compounded Interest Formula**

amount in account — rate of interest (annual)

$$A = Pe^{rt}$$

time in years

principal

Suppose you invest $3500 at an annual interest rate of 3.5% compounded continuously. How much money will you have after 10 years?

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$A = Pe^{rt}$

$A = Pe^{(0.035)(10)}$

$A = 3,500e$

$A = 4,966.74$

You will have $4,966.74 after 10 years.

Invest: 1050

annual rate: 5.5%

How much money after 5 years?