

Use the graph of $y = e^x$ to evaluate each expression to four decimal places.

1. e^3

2. $e^{0.5}$

3. e^{-4}

Identify the meaning of the following variables in the formula for continuously compounded interest.

$$A(t) = P \cdot e^{rt}$$

4. P

5. r

6. t

Find the amount in a continuously compounded account for the given conditions.

7. principal: \$300

annual interest rate: 5%

time: 4 yr

$$A(t) = P \cdot e^{rt}$$

$$A(t) = \$300 \cdot e^{(0.05)(4)}$$

$$A(4) =$$

8. principal: \$650

annual interest rate: 6.5%

time: 20 yr

$$A(t) = P \cdot e^{rt}$$

$$A(t) =$$

9. Sarah received a paycheck for \$1200. She deposited $\frac{1}{4}$ of the money into a bank account.

The account has an interest rate of 6% compounded continuously. This is the first and last deposit that Sarah makes into this account. How much money will be in the account in 15 years?