

Continuous Compounded Interest (Pert) HW (CCIHW)

- 1) Kimi invests \$4,000 at 3% interest compounded continuously. How much money will she have in 4 years?
- 2) Dash invested \$10,000 at 3% interest compounded continuously. How much will he have after 8 years?
- 3) Ashleigh wants to double her money. She put \$5,000 in a bank account that pays 4% compounded continuously. How long will it take her to double her money? (Round to the nearest tenth.)
- 4) Cyndie invests some money at 2% compounded continuously. If after 6 years she has \$1691.25, what was her initial investment?
- 5) Jenn invests \$2150 at 2% compounded continuously. How many years will it take her to accumulate \$2733.19 in the account?
- 6) Damara invests \$3500 at 2% compounded continuously for 5 years. How much will she have in her account after 5 years?
- 7) Kimi invested in an account paying 4% compounded continuously for 3 years. If the account has \$18,039.95 after 3 years, how much did she put in initially?
- 8) Chelsea put \$7500 into an account paying 5% compounded continuously. She now has \$10,643.01. How long has the money been in the account?
- 9) Dash puts \$4125 into an account. If he keeps the money in the account for 5 years and now has a total of \$4193.89. What is the interest rate?
- 10) Ashleigh put some money into an account paying 4.5% compounded continuously for 10 years. She now has \$3567.91 in the account. How much money did she start the account with?

Solve each equation.

11) $3^{-b} = 3^{-3b}$

12) $2^{3n} = \frac{1}{64}$

13) $4^{-m} = 4^{m-3}$

14) $\left(\frac{1}{6}\right)^{-k} = \frac{1}{36}$

$$15) 5^{4b} = 98$$

$$16) 2^{p+7} = 30$$

$$17) 15^{n+1} = 18$$

$$18) 3^{n+7} = 15$$

$$19) \log_8 (-5x - 4) = \log_8 (-2x - 1)$$

$$20) \log_{20} (2v + 5) = \log_{20} (4v + 7)$$

$$21) \log_4 (6 - 3x) = \log_4 -x$$

$$22) \log_{18} (5x - 4) = \log_{18} 3x$$

$$23) \log (2x^2 + 13x) = \log (-36 + x^2)$$

$$24) \log_{13} (a^2 + 3) = \log_{13} (-3a + 3)$$

$$25) \log_{12} (x^2 - 32) = \log_{12} (x - 2)$$

$$26) \log_{18} (3x^2 - x) = \log_{18} (90 + 2x^2)$$

$$27) \log_8 (x + 14) + \log_8 x = \log_8 32$$

$$28) \log_2 (x^2 - 9) - \log_2 5 = 5$$

$$29) \log_2 7 - \log_2 -2x = 2$$

$$30) \log_8 4x^2 - \log_8 9 = 2$$

$$31) \ln (x + 4) - \ln x = 3$$

$$32) \ln 9 + \ln (x^2 - 6) = 4$$

$$33) \ln (x + 33) + \ln x = \ln 70$$

$$34) \ln (x^2 + 10) - \ln 2 = \ln 37$$

Answers to Continuous Compounded Interest (Pert) HW (CCIIHW)

- 1) She will have \$4509.99 in her account after 4 years.
3) It will take approximately 17.3 years for her money to double.
5) It will take her 8 years. 7) Kimi put in \$16,000 initially. 9) The interest rate is 3.5%.
11) $\{0\}$ 13) $\left\{\frac{3}{2}\right\}$ 15) $\frac{\log_5 98}{4}$ 17) $\log_{15} 18 - 1$
19) $\{-1\}$ 21) No solution. 23) $\{-9\}$ 25) $\{6\}$
27) $\{2\}$ 29) $\left\{-\frac{7}{8}\right\}$ 31) $\left\{-\frac{4}{1 - e^3}\right\}$ 33) $\{2\}$