Algebra 2 Name_____

12.9 Homework

1) You depost $975 in an account that pays 5.5% annual interest compounded continuously. What is the balance after 6 years?

$A = 975e^{.055 \cdot 6}$ $A = \$1356.19$

2) You depost $2,000 in an account that pays 3.5% annual interest compounded semi-annually. What is the balance after 4 years?

$A = 2000\left(1 + \frac{.035}{2}\right)^{2 \cdot 4}$ $= \$2,297.76$

Describe the transformations from the parent graph

3) $\log_7 (x+1) + 2$

Horizontal shift left 1
Vertical shift up 2

4) $\log_2 -x$

reflected about y-axis

5) $-\log_3 (x+9)$ reflected about x-axis
Horizontal shift left 9

Rewrite each equation in exponential form.

6) $\log_6 36 = 2$

$6^2 = 36$

7) $\log_7 \frac{1}{49} = -2$

$7^{-2} = \frac{1}{49}$

8) $\log_{64} 4 = \frac{1}{3}$ $64^{1/3} = 4$

Rewrite each equation in logarithmic form.

9) $9^2 = 81$

$\log_9 81 = 2$

10) $169^{\frac{1}{2}} = 13$

$\log_{169} 13 = \frac{1}{2}$

11) $14^{-2} = \frac{1}{196}$ $\log_{14} \frac{1}{196} = -2$

Evaluate each expression.

12) $\log_7 49 = 2$

$\log_7 49 = y$

$7^y = 49$

13) $\log_3 27 = 3$

$3^y = 27$

14) $\log_2 32 = 5$

$2^y = 32$

15) $\log_6 6 = 1$

$6^y = 6$

16) $\log_5 1 = 0$

$5^y = 1$

17) $\log_7 \frac{1}{49} = -2$

$7^y = \frac{1}{49}$