

Final Practice #3:

Exponential Equations

ANSWERS only

need to show work

1. Danielle invested \$400 into an account with an interest rate of 5.5% per year. How much money will be in the account in 8 years?

 $\$613.87$

2. The population of a bacteria in a petri dish is 700, but it is dying off at about 15% per day. How much bacteria will be left after 30 days?

 5.34
about 5 bacteria

3. A viral YouTube video currently has 250,000 views and this number is increasing at a rate of 9.5% per day. How many views will it have after 12 days?

 $742,864$ views

4. The number of trees in a forest begins at 800, and increases by 30 trees per year. How many trees will be in the forest after 15 years?

 1250 trees

Solve:

1. $5^{3x} = 5^{7x-2}$



$$X = \frac{1}{2}$$

2. $2^x \cdot 2^{x+4} = (2^3)^{x+1}$

$$X = 1$$

3. $3^x = 9^{x+5}$

$$X = -10$$

4. $4^x = \left(\frac{1}{8}\right)^{x-1}$

$$X = \frac{3}{5}$$