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7.1 Exponential Growth and Decay

Key

Name_____ Period_____

Tell whether the following functions represent Growth or Decay. Give the %. Graph each.

$f(x) = 32(0.5^x)$ $1-.5=.5$ Decay 50%	$f(x) = 0.5(1.2^x)$ $1.2-1=.2$ Growth 20%	$f(x) = 0.4(\frac{3}{4})^x$ $1-.75=.25$ Decay 25%
$f(x) = (\frac{1}{3})^x$ $1-.333=.666$ Decay 66.6%	$f(x) = (1/3)(1.3)^x$ $1.3-1=.3$ Growth 30%	$f(x) = 10(2.7)^x$ $2.7-1=1.7$ Growth 170%

An acidophilus culture containing 150 bacteria doubles inn population every hour. Write a function representing the bacteria population for every hour. Predict the number of bacteria after 12 hours.

$y=150(2)^x$ $150(2)^{12} = 614,400$

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