

Pre Cal 4 5 Exp Models

Lesson 180 | Precalculus | Exponential functions and models

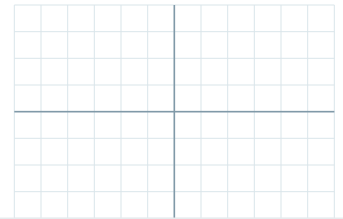
<https://www.youtube.com/watch?v=U3GEecFwfCs>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Graph $f(x) = 4^{(x - 8)} + 14$. Give its asymptote, domain, range, and two points.

**02**

A population follows $P(t) = 800 \cdot 4^t$. Find $P(0)$, $P(2)$, and the multiplication factor per time unit.

03

A population follows $P(t) = 800 \cdot 7^t$. Find $P(0)$, $P(2)$, and the multiplication factor per time unit.

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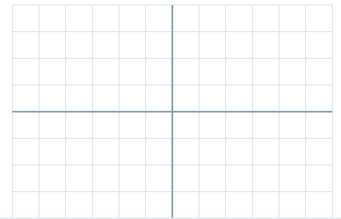
<https://www.youtube.com/watch?v=U3GEecFwfCs>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

04

Graph $f(x) = 7^{(x - (-7))} + 14$. Give its asymptote, domain, range, and two points.

**05**

A population follows $P(t) = 1400 \cdot 6^t$. Find $P(0)$, $P(2)$, and the multiplication factor per time unit.

06

A population follows $P(t) = 600 \cdot 7^t$. Find $P(0)$, $P(2)$, and the multiplication factor per time unit.

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01

Graph $f(x) = 4^{(x - 8)} + 14$. Give its asymptote, domain, range, and two points.

Shift $y=4^x$ horizontally by 8 and up 14. Asymptote $y=14$; domain all real x ; range $(14, \infty)$. Points $(8, 15)$ and $(9, 18)$.

02

A population follows $P(t) = 800 \cdot 4^t$. Find $P(0)$, $P(2)$, and the multiplication factor per time unit.

$P(0) = 800$; $P(2) = 12800$. Each increase of one in t multiplies the population by 4.

03

A population follows $P(t) = 800 \cdot 7^t$. Find $P(0)$, $P(2)$, and the multiplication factor per time unit.

$P(0) = 800$; $P(2) = 39200$. Each increase of one in t multiplies the population by 7.

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04

Graph $f(x) = 7^{(x - (-7))} + 14$. Give its asymptote, domain, range, and two points.

Shift $y=7^x$ horizontally by -7 and up 14. Asymptote $y=14$; domain all real x ; range $(14, \infty)$.
Points $(-7, 15)$ and $(-6, 21)$.

05

A population follows $P(t) = 1400 \cdot 6^t$. Find $P(0)$, $P(2)$, and the multiplication factor per time unit.

$P(0) = 1400$; $P(2) = 50400$. Each increase of one in t multiplies the population by 6.

06

A population follows $P(t) = 600 \cdot 7^t$. Find $P(0)$, $P(2)$, and the multiplication factor per time unit.

$P(0) = 600$; $P(2) = 29400$. Each increase of one in t multiplies the population by 7.