

Review Kahoot for Unit 5 part 1

What is the logarithmic form of $2^{10} = 1024$?

$$\log_2 1024 = 10$$

Which function is an example of exponential growth?

<input checked="" type="radio"/> A. $a(x) = 0.5(1.2)^x$	B. $d(x) = 5(0.2)^2$
C. $d(x) = 5(0.2)^2$	D. $c(x) = 2.4(x)^{0.86}$

Which is the largest x?

A. $\log_2 32 = x$	B. $\log_5 x = 3$
C. $x^{10} = 1$	D. $\log_x 2187 = 7$

a. $x = 5$ c. $x = 1$
 b. $x = 125$ d. $x = 3$ Answer b

Solve $4^{4x-5} = 8^{3x-4}$.

$$(2^2)^{4x-5} = (2^3)^{3x-4}$$

$$x = 2$$

What is the logarithmic form of $6^3 = 216$?

$$\log_6 216 = 3$$

If $f(x) = a(r)^x$ is an example of exponential growth, what must be true of r?

$$r > 1$$

Which of the following functions is an example of exponential decay?

A. $d(x) = \log_0 sx$	B. $a(x) = 0.5(1.2)^x$
<input checked="" type="radio"/> C. $b(x) = 2.4(0.86)^x$	D. $c(x) = 0.5(x)^{0.9}$

Write an exponential function.

In 2000, the world population was 6.08 billion and was increasing at a rate of 1.21% each year.

$$y = 6.08(1 + 0.0121)^x$$

$$y = 6.08(1.0121)^x$$

Evaluate (Solve)

$$\log_8 512 = x$$

$$\frac{\log 512}{\log 8} = x \quad x = 3$$

Solve

$$\log_6 216 = x$$

$$\frac{\log 216}{\log 6} = x \quad x = 3$$

Solve for x

$$4(10^x) = 5320$$

$$10^x = 1330$$

$$x = 3.12$$

Solve for x

$$\log_x 16 = -4$$

$$x^{-4} = 16$$

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

Solve for x

$$10^x = 20$$

$$x = 1.30$$

Solve for x

$$\log_{11} 11 = x$$

$$x = 1$$

You have bought a car for \$38,000. The value of the car decreases in value by 8% each year. What is the value of the car after 7 years?

$$y = 38000(1 - 0.08)^x$$

when $x = 7$ 2119.817

Write an expression shows the value of \$2500 investment after it has grown by 4.5% per year for 12 years? Now how much is the value of the investment?

$$y = 2500(1 + 0.045)^{12}$$

$$4239.70$$

What is the asymptote of the function?

$$y = \frac{1}{3} \cdot \left(\frac{1}{4}\right)^x + 1$$

$$y = 1$$

What is the range for the given exponential function?

$$y = \frac{1}{3} \cdot \left(\frac{1}{4}\right)^x + 1$$

$$y = 1$$

You have inherited land that was purchased for \$30,000 in 2000. The value of the land increased by about 5% per year. What is the approximate value of the land in the year 2017?

$$30,000(1+0.05)^{17}$$

$$\approx \$68,760 = 55$$

The growth of a company can be modeled by $y = 271(1.06)^x$ where x is the number of years since 2000. What would be the projected growth of this company in 2016?

$$271(1.06)^{16}$$

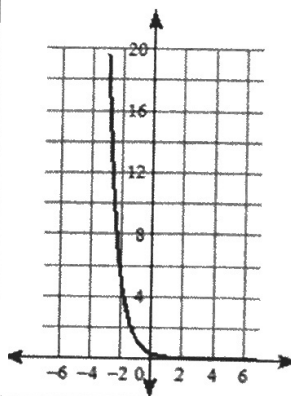
$$\approx \$688.43$$

Identify the asymptote for the function.

$$\log_2(x - 1) = y$$

$$x = 1$$

What is the domain, range and asymptote for the given exponential function?



$$D: (-\infty, +\infty)$$

$$R: (0, +\infty)$$

$$\text{Asy: } y = 0$$

Identify the domain for the function.

$$\log_2(x - 1) = y$$

$$(1, +\infty)$$