

Graphing

EXPONENTIAL FUNCTIONS

$$f(x) = a(b)^{x-h} + k$$

example:

horizontal shift

vertical shift

$y = k$
horizontal asymptote

$$f(x) = \underset{a}{3}(\underset{b}{2})^x \underbrace{-4}_{\substack{\text{right 4} \\ \text{shift}}} \underbrace{-1}_{\substack{\text{down 1} \\ \text{shift}}}$$

① parent function & table

$$f(x) = 3(2)^x$$

(drop shifts for now)

(basic parent table for exponentials)

X	Y
0	a
1	ab

X	Y
0	3
1	6

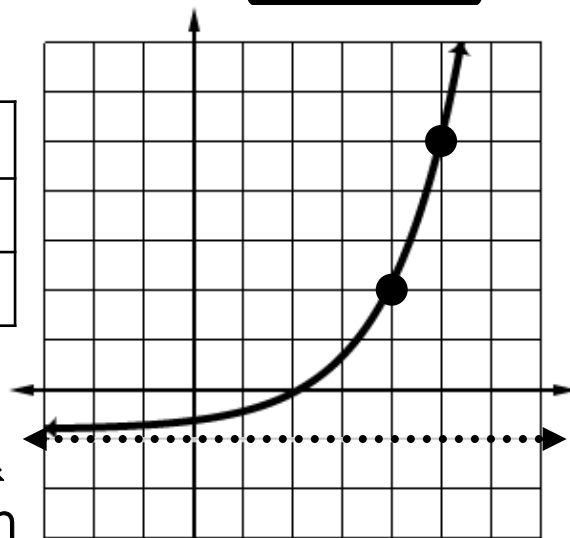
② shifts

right 4 (+4 to x)

down 1 (-1 from y)

X	Y
4	2
5	5

③ plot & sketch



Reminders:

x shifts opposite
(ex: $x + 3$ shifts left)

b value < 1
decay

b value > 1
growth

Thank you!



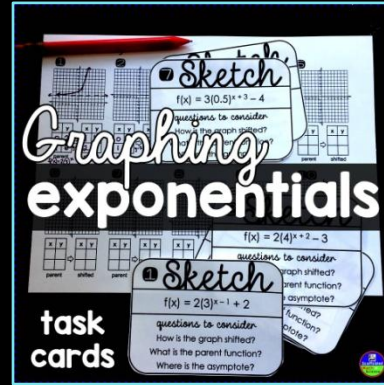
[Rebecca Meyer](#)



4.0

[Kimberly Geswein
Fonts](#)

You may also like..



task
cards

ways to connect

with Scaffolded Math and Science



[teacherspayteachers.com/Store/Scaffolded-Math-And-Science](https://www.teacherspayteachers.com/Store/Scaffolded-Math-And-Science)

Review FOR CREDITS