

6.1 Exponential Growth & Decay DAY ONE CYU

Use when you get it right all by yourself
S Use when you did it all by yourself, but made a silly mistake
H Use when you could do it alone with a little help from teacher or peer
G Use when you completed the problem in a group
X Use when a question was attempted but wrong (get help)
N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Evaluating exponential expressions	1, 2	3, 4	5, 6
Initial value			
Growth/Decay Factor			
Horizontal Asymptote			
Domain and Range			
Creating t-charts			
Graphing Exponential functions			
Determining Growth VS Decay			

Evaluate the expression for $x = -2$ and $x = 3$. Show all work for full credit.

1. 2^x

$\frac{1}{4}; 8$

2. 4^x

$\frac{1}{16}; 64$

3. $8 \cdot 3^x$

$\frac{8}{9}; 216$

4. $6 \cdot 2^x$

$\frac{3}{2}; 48$

5. $5 + 3^x$

$\frac{46}{9}; 32$

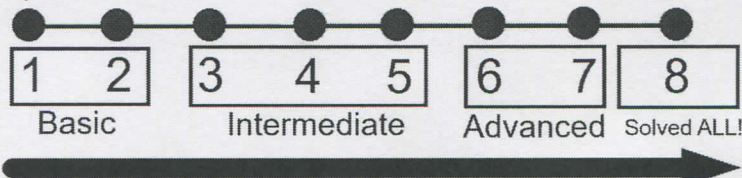
6. $2^x - 2$

$-\frac{7}{4}; 6$

CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

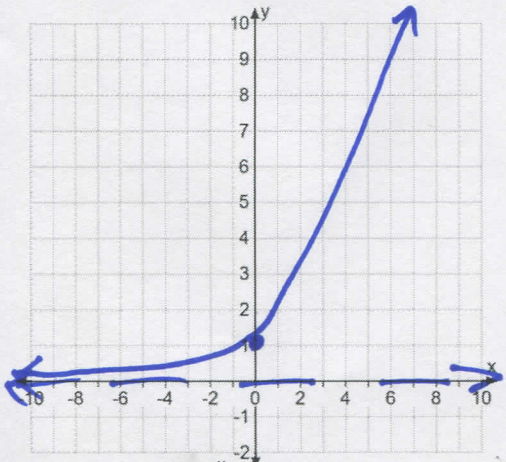


Tell whether the function represents exponential growth or exponential decay. Determine the "a," "r," and "b" value and the horizontal asymptote. Create a t-chart and then graph the function. Then state the domain and range.

7. $y = 6^x$

a: 1 r: 5
b: 6 y = 0

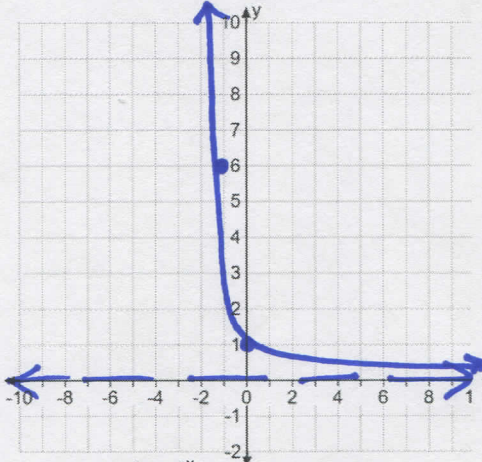
X	Y
0	1
1	6
2	36



8. $y = (\frac{1}{6})^x$

a: 1 r: $\frac{5}{6}$
b: $\frac{1}{6}$ y = 0

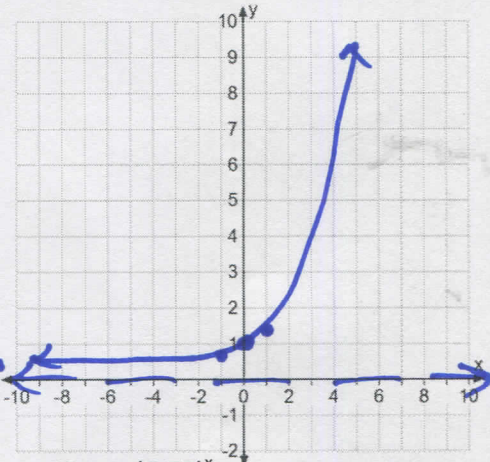
X	Y
-1	6
0	1
1	0.1667



9. $y = (\frac{4}{3})^x$

a: $\frac{1}{3}$ r: $\frac{1}{3}$
b: $\frac{4}{3}$ y = 0

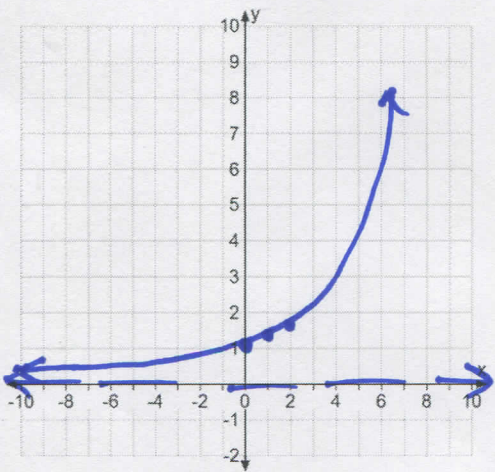
X	Y
-1	$\frac{3}{4}$
0	1
1	1.333



10. $y = (1.2)^x$

a: 1 r: 0.2
b: 1.2 y = 0

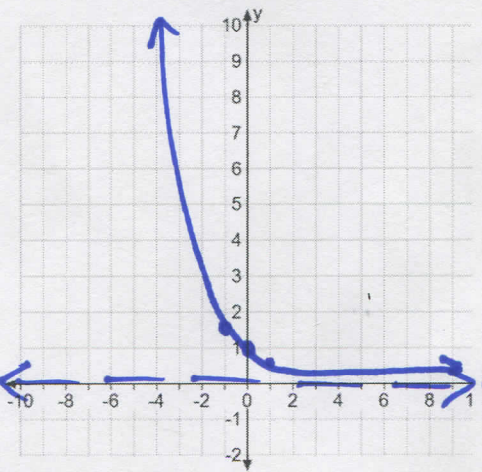
X	Y
0	1
1	1.2
2	1.44



11. $y = (0.6)^x$

a: 1 r: 0.4
b: 0.6 y = 0

X	Y
-1	1.667
0	1
1	0.6



12. $y = (0.75)^x$

a: 1 r: 0.25
b: 0.75 y = 0

X	Y
-1	1.333
0	1
1	0.75

