

Logarithmic Graphs

4.4.16

Section 11.4

Lesson 26 P2

Warm-up

Rewrite in logarithmic form

1) $y^3 = 27$

2) $4^a = c$

3) $2^3 = 8$

4) $4^3 = x$

Parent Graph

$$y = \log_b x$$

I Try:

Graph $y = \log_3 x$

Identify b	
Plot the 3 points $\left(\frac{1}{b}, -1\right), (1, 0), (b, 1)$	
Connect points and finish graph.	

We Try:
Graph $y = \log_5 x$

Identify b	
Plot the 3 points $\left(\frac{1}{b}, -1\right), (1,0), (b, 1)$	
Connect points and finish graph.	

You try with your partner:

Graph $y = \log_3 x$

Identify b	
Plot the 3 points $\left(\frac{1}{b}, -1\right), (1,0), (b, 1)$	
Connect points and finish graph.	

Graphing with transformations.

$$y = a \log_b(x - h) + k$$

I Try:

$$\text{Graph } y = \log_3(x + 2) - 3$$

Identify b	
Plot the 3 points $\left(\frac{1}{b}, -1\right), (1, 0), (b, 1)$	
Apply transformations	
Connect dots and finish graph.	

We Try:

$$\text{Graph } y = \log_2(x - 2) - 1$$

Identify b	
Plot the 3 points $\left(\frac{1}{b}, -1\right), (1, 0), (b, 1)$	
Apply transformations	
Connect dots and finish graph.	

You Try:

$$\text{Graph } y = \log_3(x - 1) + 2$$

Identify b	
Plot the 3 points $\left(\frac{1}{b}, -1\right), (1, 0), (b, 1)$	
Apply transformations	
Connect dots and finish graph.	

You Try:

$$\text{Graph } y = \log_2(x - 2) + 3$$

Identify b	
Plot the 3 points $\left(\frac{1}{b}, -1\right), (1, 0), (b, 1)$	
Apply transformations	
Connect dots and finish graph.	

Exit Ticket

$$\text{Graph } y = \log_2(x - 1) + 2$$

Graph the parent function.

Identify the transformations:

Horizontal shift.

Vertical shift

