TEKS 2A.11.C

LESSON 7-1

Exponential Functions, Growth, and Decay

Know it! Note

Lesson Objectives (p. 490):

Vocabulary

1. Exponential function (p. 490): _____

2. Base (p. 490): _____

3. Asymptote (p. 490): _____

4. Exponential growth (p. 490): _____

5. Exponential decay (p. 490): _____

Key Concepts

6. **Get Organized** Compare exponential growth and decay. (p. 493).

$f(x) = ab^x$, where $a > 0$	GROWTH	DECAY
Value of b		
General shape of graph		
What happens to $f(x)$ as x increases?		
What happens to $f(x)$ as x decreases?		

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TEKS 2A.11.C

LESSON 7-1

Exponential Functions, Growth, and Decay

Lesson Objectives (p. 490):

write and evaluate exponential expressions to model growth and decay situations.

Vocabulary

1. Exponential function (p. 490): a function in the form $f(x) = b^x$.

2. Base (p. 490): in the function $f(x) = b^x$, the base is b.

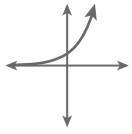
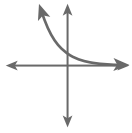
3. Asymptote (p. 490): a line that a graphed function approaches as the value of x gets very large or very small.

4. Exponential growth (p. 490): a function in the form $f(x) = ab^x$, with $a > 0$ and $b > 1$ which increases as x increases.

5. Exponential decay (p. 490): a function in the form $f(x) = ab^x$, with $a > 0$ and $0 < b < 1$ which decreases as x increases.

Key Concepts

6. **Get Organized** Compare exponential growth and decay. (p. 493).

$f(x) = ab^x$, where $a > 0$	GROWTH	DECAY
Value of b	$b > 1$	$0 < b < 1$
General shape of graph		
What happens to $f(x)$ as x increases?	$f(x)$ increases	$f(x)$ decreases
What happens to $f(x)$ as x decreases?	$f(x)$ decreases	$f(x)$ increases

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