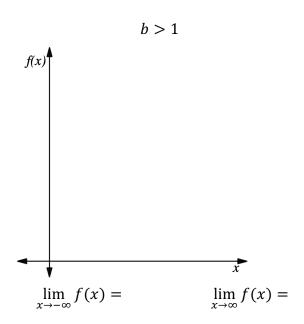
Video 4.2 Exponential Functions

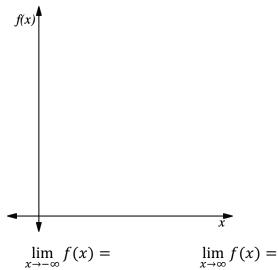
$$f(x) = a \cdot b^x$$

$$b > 0$$
 and $b \neq 1$

What do a and b represent?



0 < b < 1



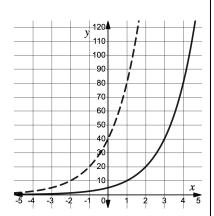
Domain:

Range:

Transformations of Exponential Functions

Let
$$f(x) = 5 \cdot 2^x$$

$$f(x+3) =$$



AP Exam Tips:

Example:

For a function g given by $g(x) = ab^x$ where a < 0 and 0 < b < 1, which of the following statements is true?

A)
$$\lim_{x \to \infty} g(x) = -\infty$$

B)
$$g(20) > g(30)$$

- C) The rates of change of g are decreasing.
- D) $\frac{g(n+1)}{g(n)} > 1$ for all n.