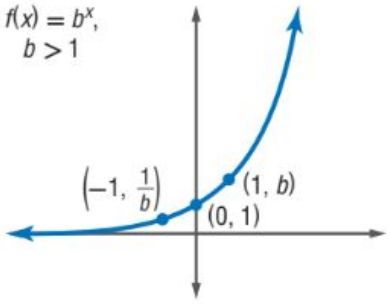
KeyConcept Parent Function of Exponential Growth Functions

Parent Functions:	$f(x) = b^x, b > 1$
Type of graph:	continuous, one-to-one, and increasing
Domain:	all real numbers
Range:	all positive real numbers
Asymptote:	x-axis
Intercept:	(0, 1)

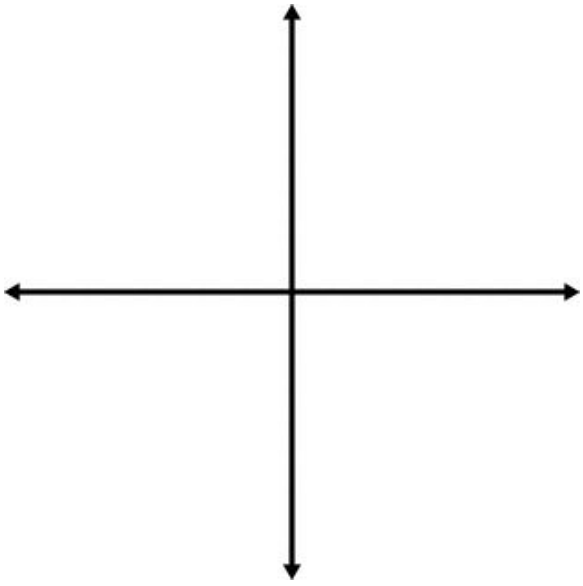


KeyConcept Transformations of Exponential Functions

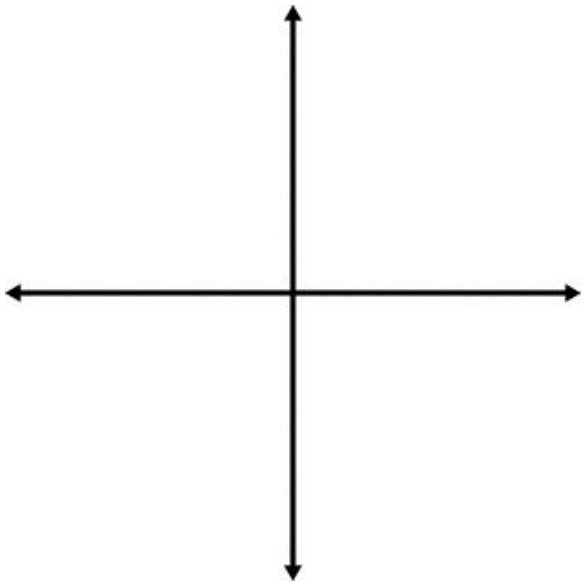
$$f(x) = ab^{x-h} + k$$

1. Graph the following and state the domain and range:

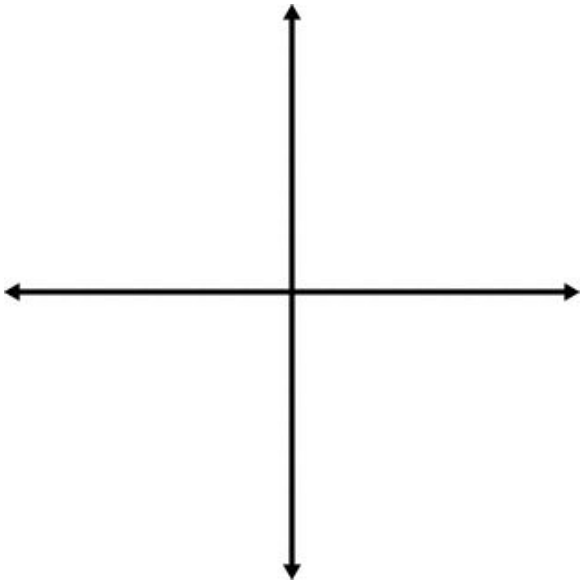
a. $y = 3^x$



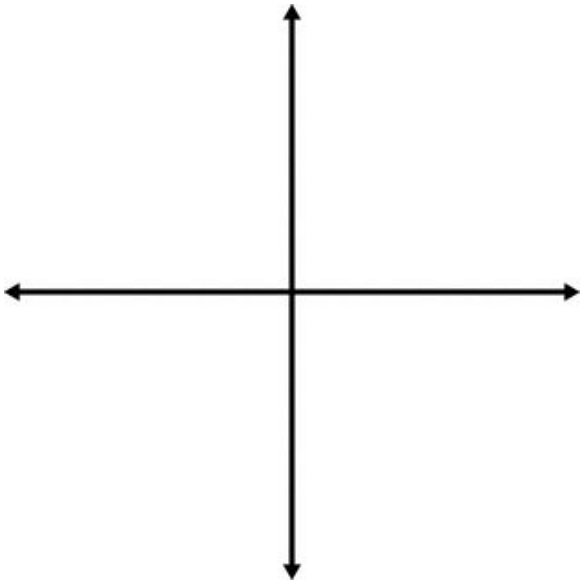
b. $y = 2^x + 1$



c. $y = 4^{x-2}$



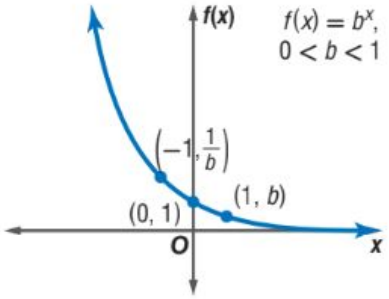
d. $y = 2^{x+3} - 1$



KeyConcept Parent Function of Exponential Decay Functions

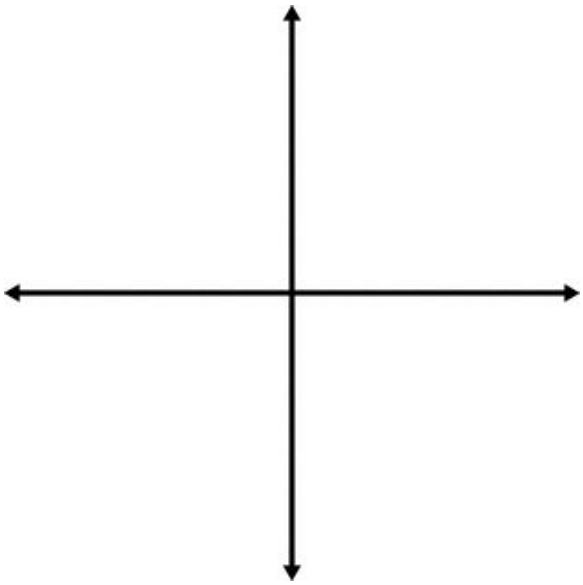
Parent Functions:	$f(x) = b^x$, $0 < b < 1$
Type of graph:	continuous, one-to-one, and decreasing
Domain:	all real numbers
Range:	positive real numbers
Asymptote:	x-axis
Intercept:	(0, 1)

Model



2. Graph the following and state the domain and range:

a. $y = (\frac{1}{3})^x$



b. $y = (\frac{1}{2})^x - 2$