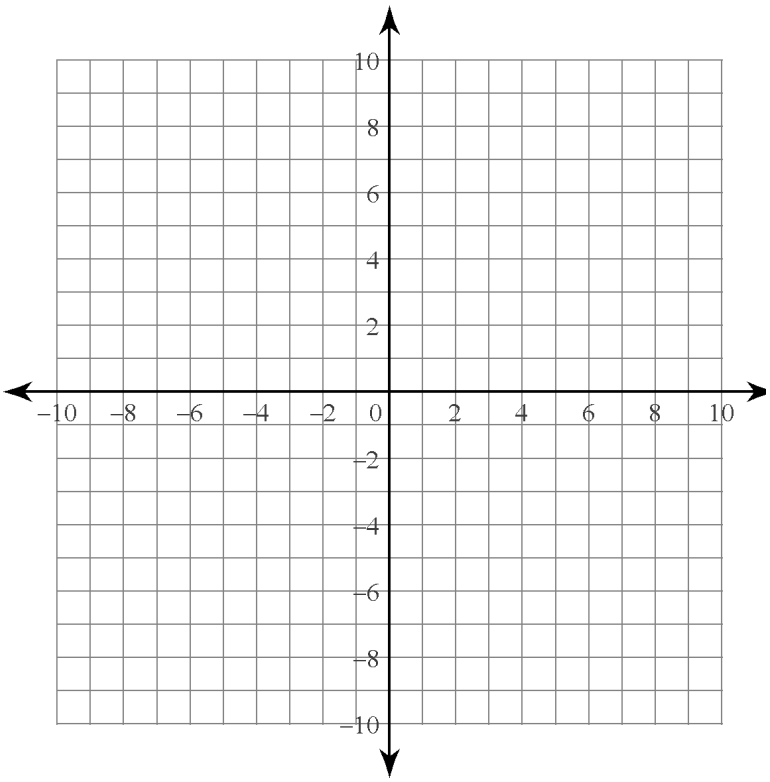
8.1 Exponential Functions

Exponential Functions –

$y = 2^x$

$y = 3^x$



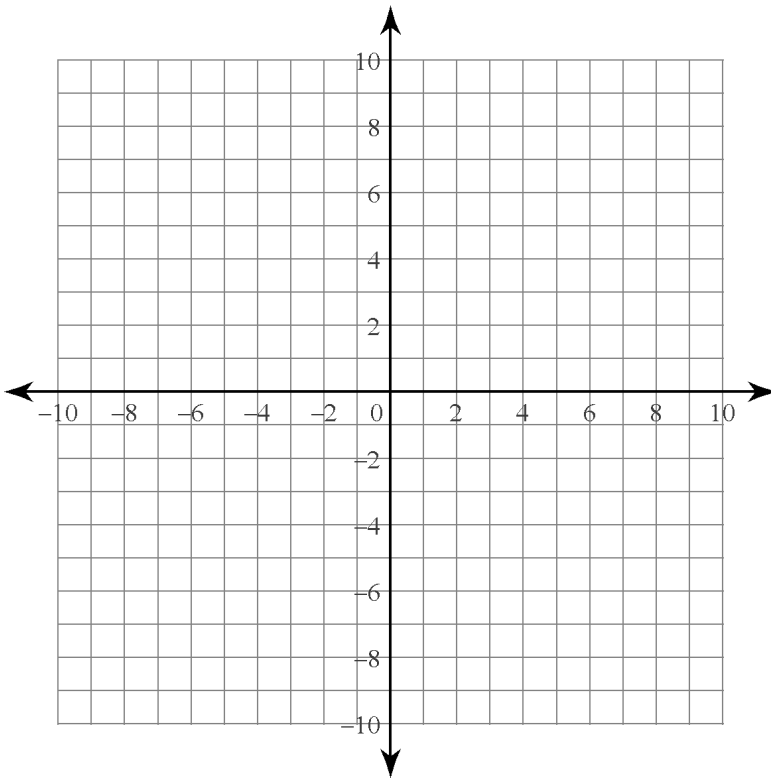
Domain –

x-intercept –

asymptote –

$y = \left(\frac{1}{2}\right)^x$

$y = \left(\frac{1}{4}\right)^x$



Range –

y – intercept –

end behaviour –

If $b > 1$:

If $0 < b < 1$:

Find $\lim_{x \to 3^-} 2^{\frac{1}{x-3}}$

<u>The Rules of Transformations</u> apply to exponential functions

$y = 2^x + 3$ $\qquad$ $y = -2^x$

$y = 2^{x+3}$ $\qquad$ $y = 2^{-x}$

$y = 3\left(2^x\right)$ $\qquad$ $y = 2^{3x}$