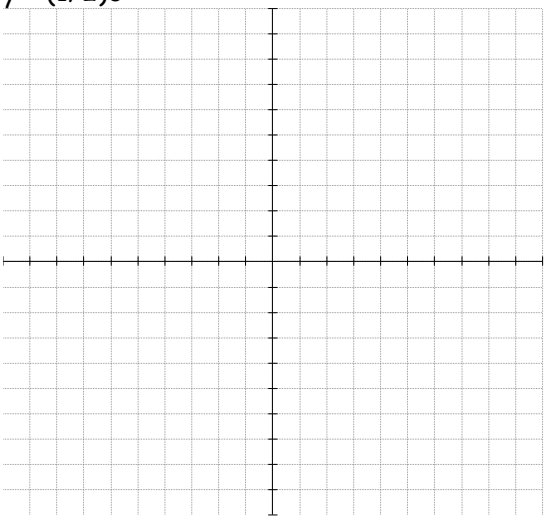
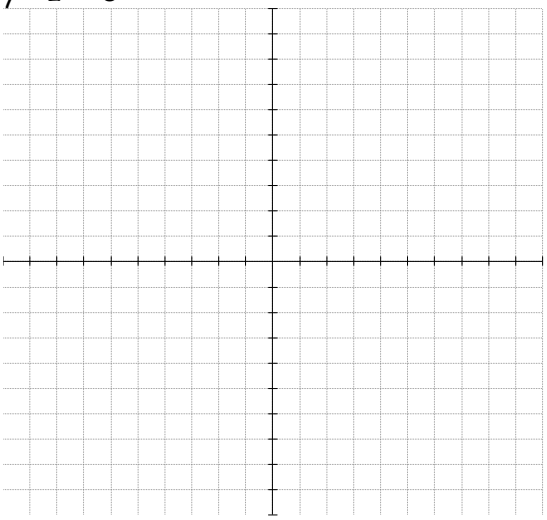
Draw the following exponentials: Name

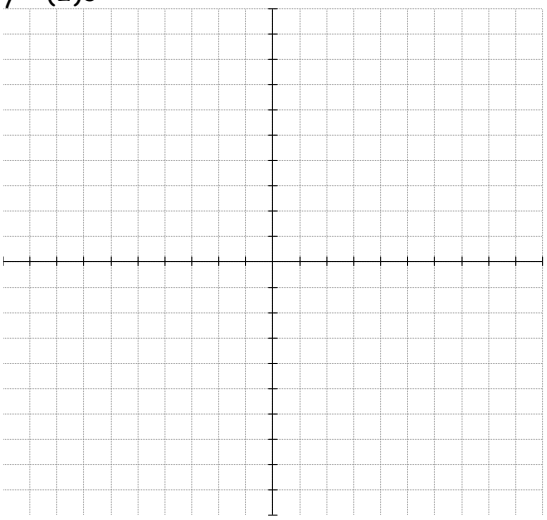
$y = (1/2)3^x$



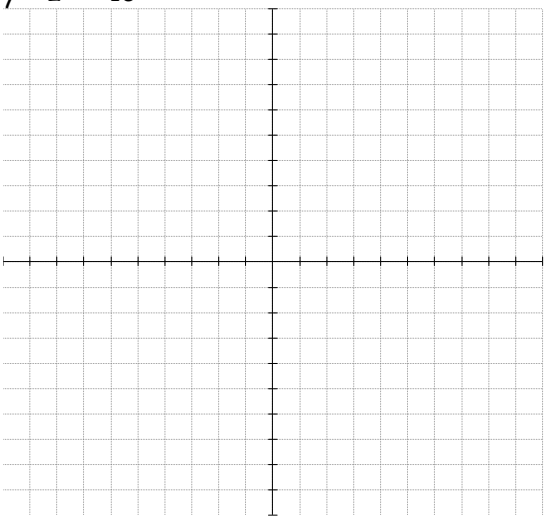
$y = 2^x - 8$



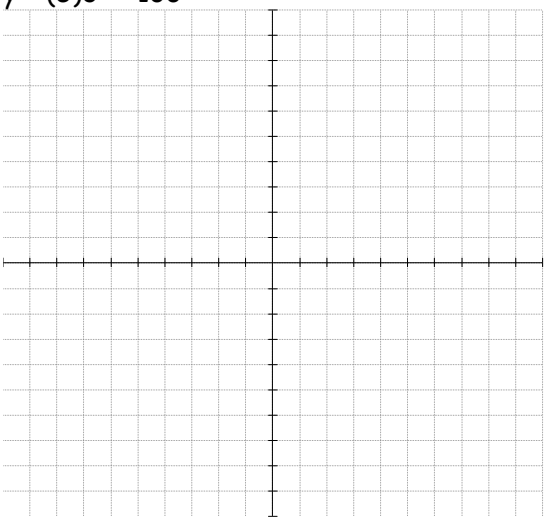
$y = (2)3^{-x}$



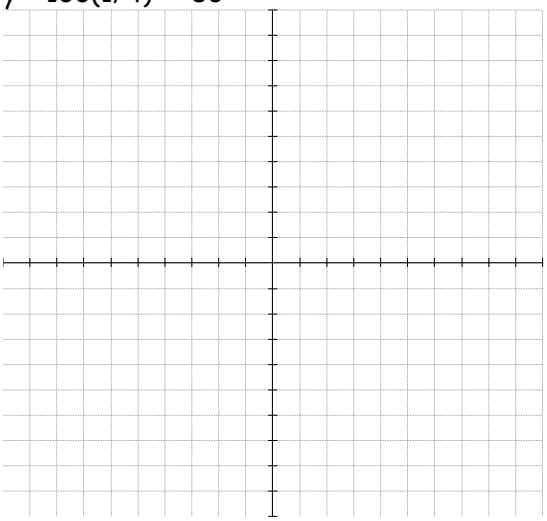
$y = 2^{-x} + 16$



$y = (5)3^x - 100$



$y = 100(1/4)^x + 80$



To find an equation of the form $y = A(b^x) + C$

(i) Find the asymptote. This will be $y = C$

(ii) Find the y-int. Plug in & solve for A.

(iii) Find a convenient 3rd pt. Plug in and solve for b.

Example:

(i) Asymptote $y = 6$. $C = 6$

(ii) y-int = (0, 0) plug in (0, 0)

$0 = Ab^0 + 6$

$0 = A + 6$, $A = -6$

(iii) plug in (1, 4)

$4 = -6(b^1) + 6$

$b = 1/3$

So, $y = -6\,(\frac{1}{3})^x - 6$