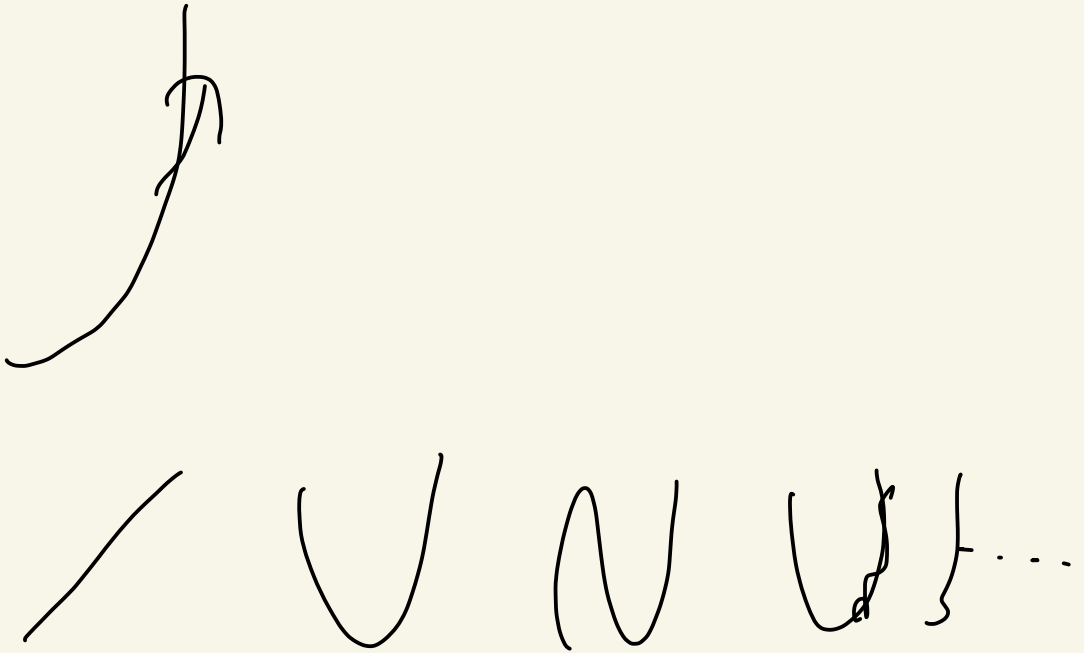
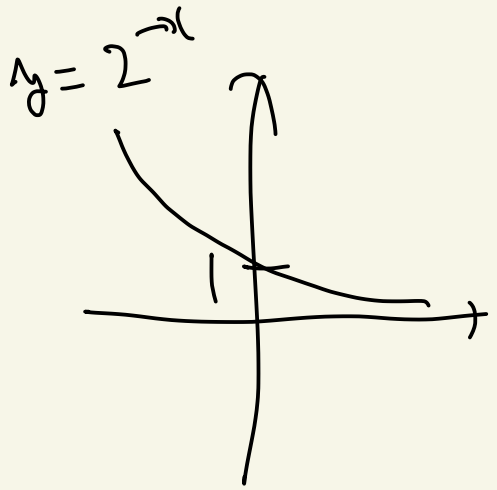
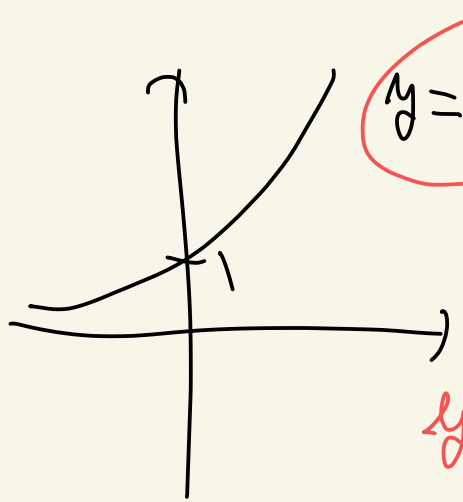
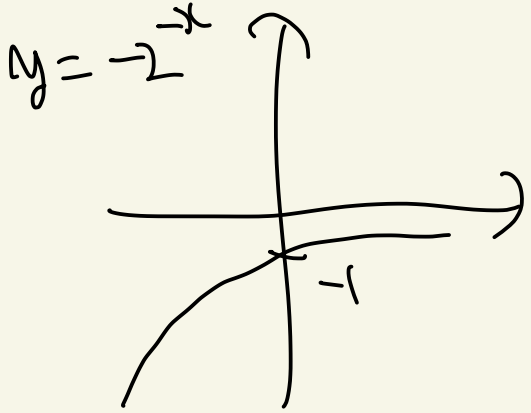
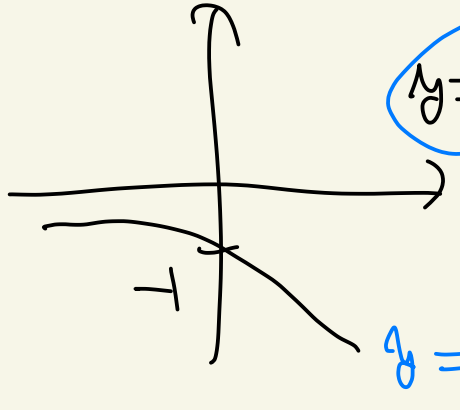



$y = 2^{-x}$
1


$y = 2^{x}$
1
$x=0$
$y = 2^0 = 1$


$y = -2^{-x}$
-1

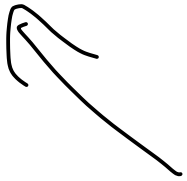

$y = -2^{x}$
-1
$x=0$
$y = -2^0 = -1$

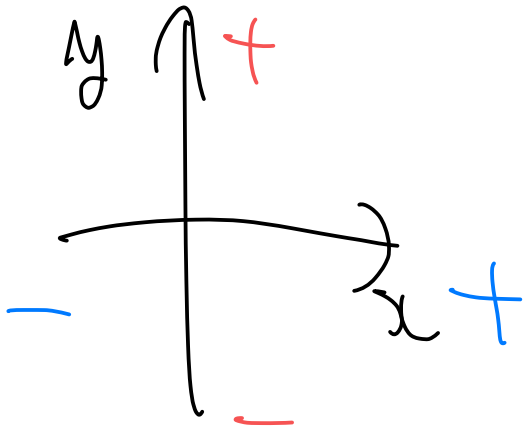
$$y = \pm a^{-+x}$$

(단, $a > 1$).

문제 1. 다음 지수함수 그래프의 방향을 결정하시오.

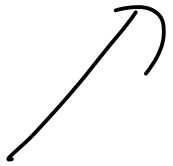
(1) $y = 3^{-x}$





(위, 아래) (왼쪽, 오른쪽)

(2) $y = 5^{x}$



(위, 아래) (왼쪽, 오른쪽)

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

(위, 아래) (왼쪽, 오른쪽)

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

$\frac{1}{2} = 2^{-1}$

위 / 아래

왼쪽 오른쪽

(5) $-y = 2^{-x}$ ⇝ $y = -2^{+x}$ 가능.

위 / 아래

왼쪽 오른쪽

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

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

$= -2^{-x}$

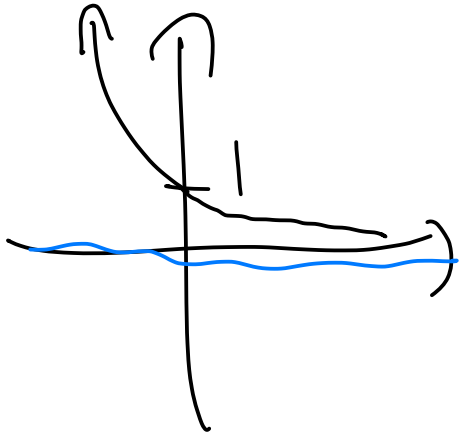
(5) $y = -2^{-x}$

$-y = ab$ 2

$y = -a(-b)$ 가능.

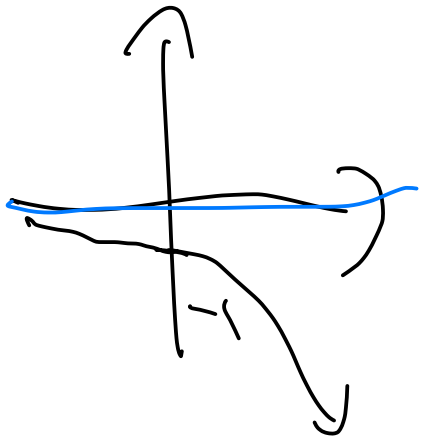
[2~6] 다음 지수함수의 y절편을 찾아 그래프를 그리고, 점근선의 방정식을 시오.

문제 2. $y = 2^{-x}$



$y = 0$

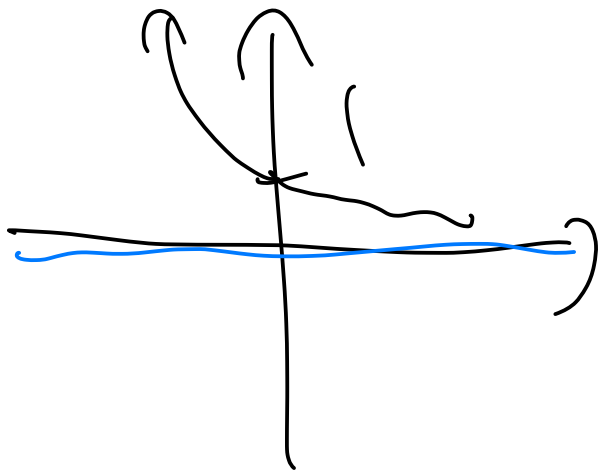
문제 3. $y = -4^{x}$



$y = 0$

문제 4. $y = \left(\frac{1}{5}\right)^x = (5^{-1})^x = 5^{-x}$

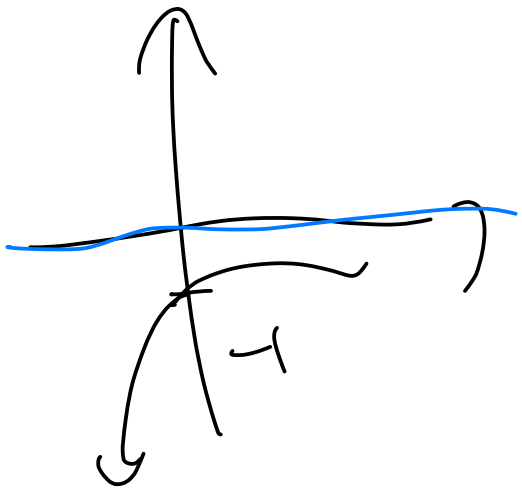
$f(0) = 5^{-0} = 1$



$y = 0$

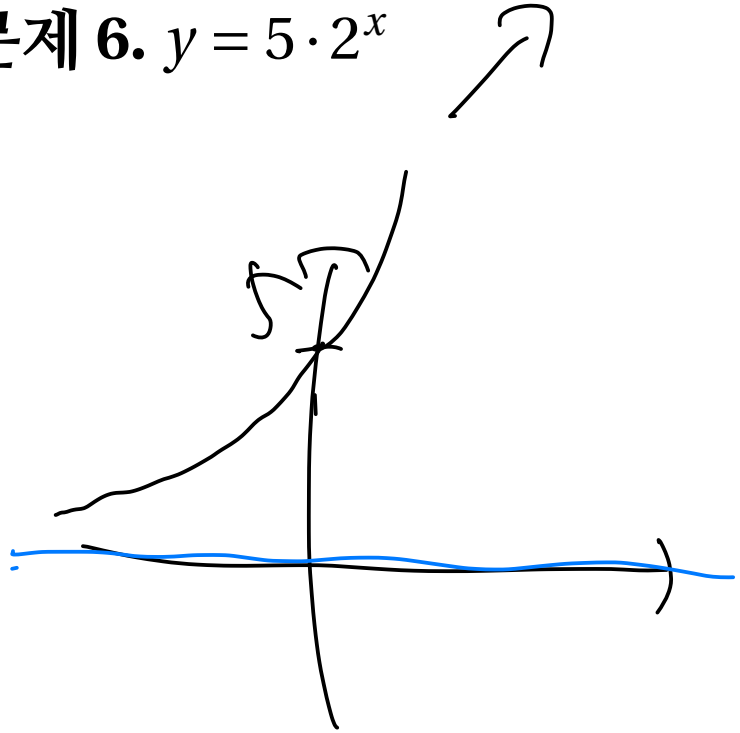
문제 5. $y = -3^{-2x}$

$f(0) = -3^0 = -1$



$y = 0$.

문제 6. $y = 5 \cdot 2^x$



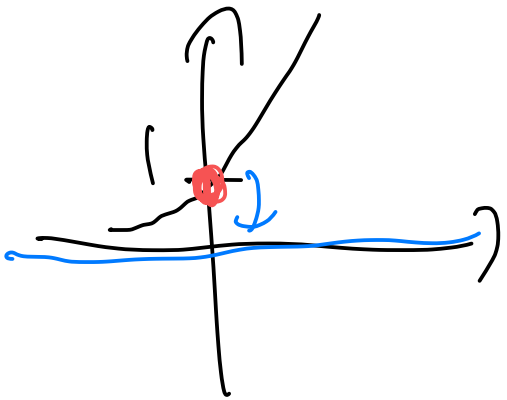
$f(0) = 5 \cdot 2^0 = 5 \cdot 1 = 5$

$y = 0$

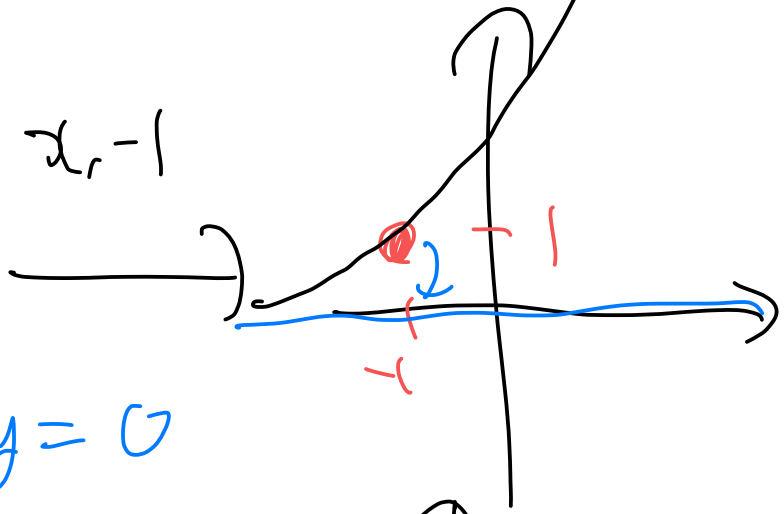
[7~10] 다음 지수함수의 그래프를 그리고, 점근선의 방정식을 쓰시오.

문제 7. $y = 2^{x+1}$

$y = 2^x$ $f(0) = 1$



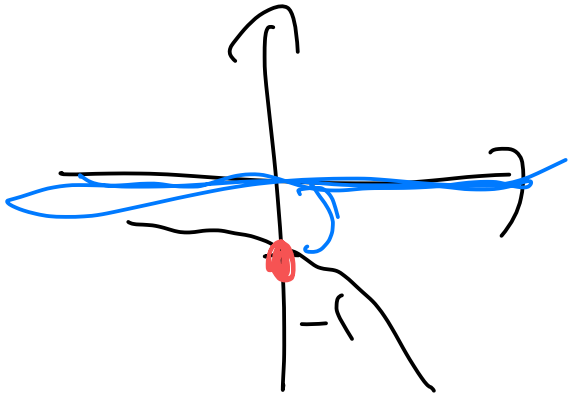
x축으로 -1



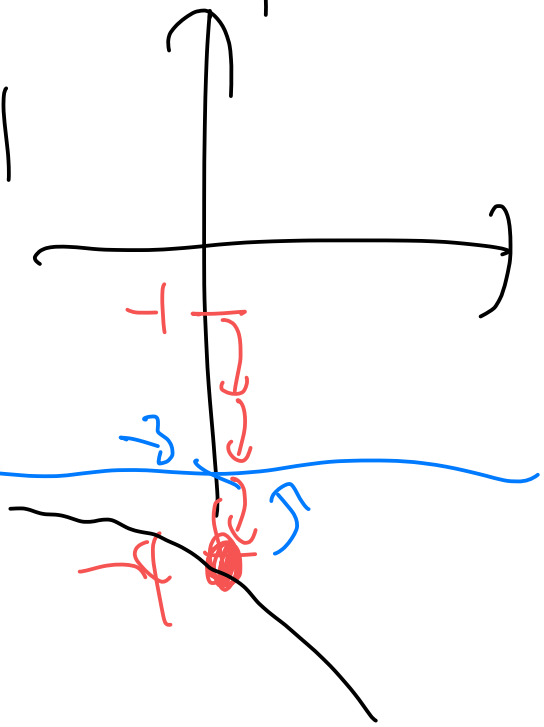
$y = 0$

문제 8. $y = -2^x - 3$

$y = -2^x$ $f(0) = -1$



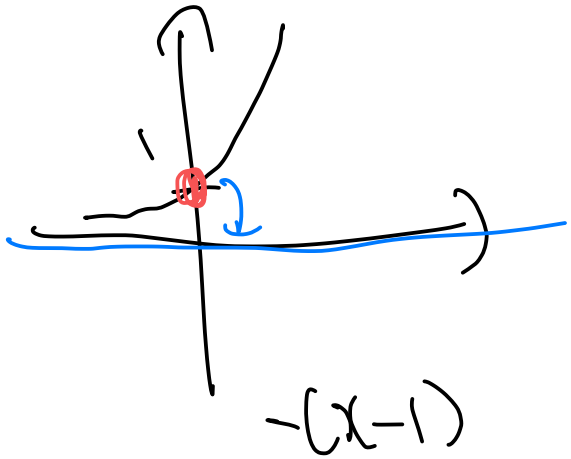
y축으로 -3



$y = -3$

문제 9. $y = 2^{x+1} - 1$

$y = 2^x$ $f(0) = 1$

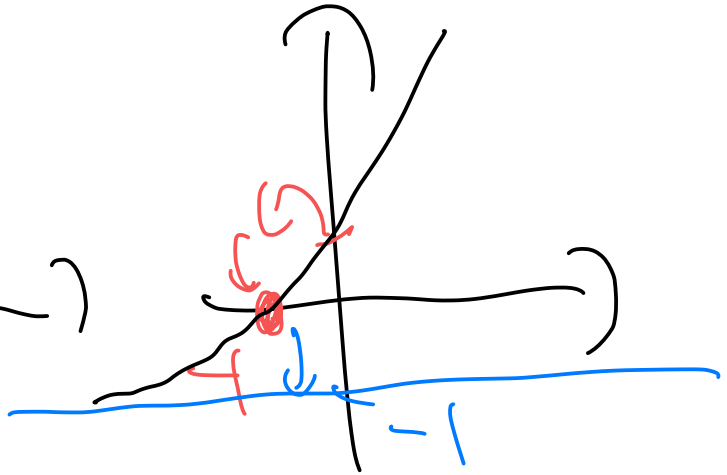


$-(x-1)$

$x, -1$

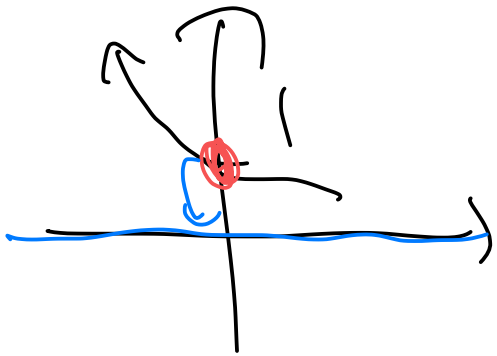
$y, -1$

$y = -1$



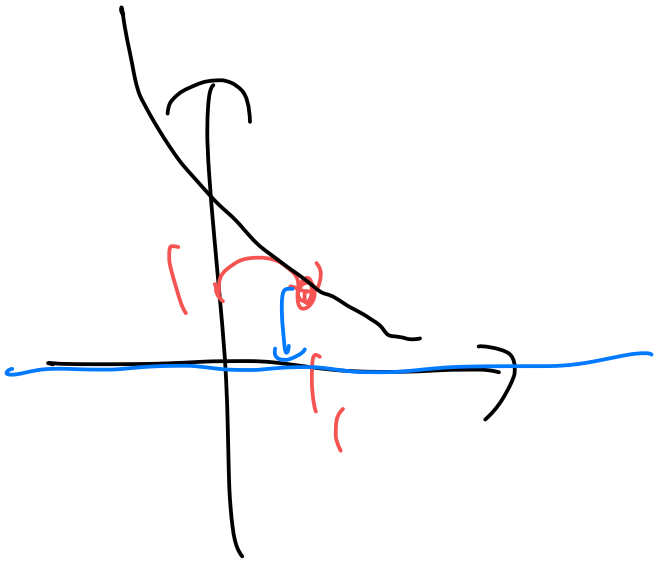
문제 10. $y = 2^{-x+1}$

$y = 2^{-x}$ $f(0) = 1$



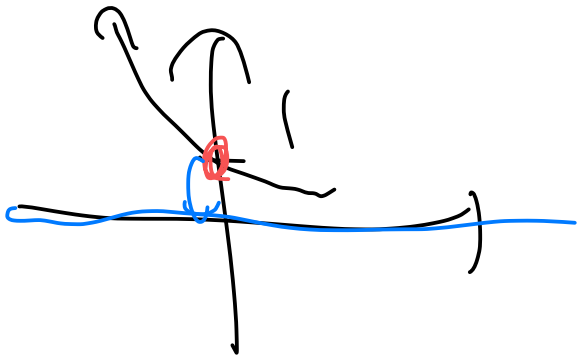
$x, 1$

$y = 0$



문제 11. $y = \left(\frac{1}{3}\right)^{x-3} - 1 = 3^{-(x-3)} - 1$

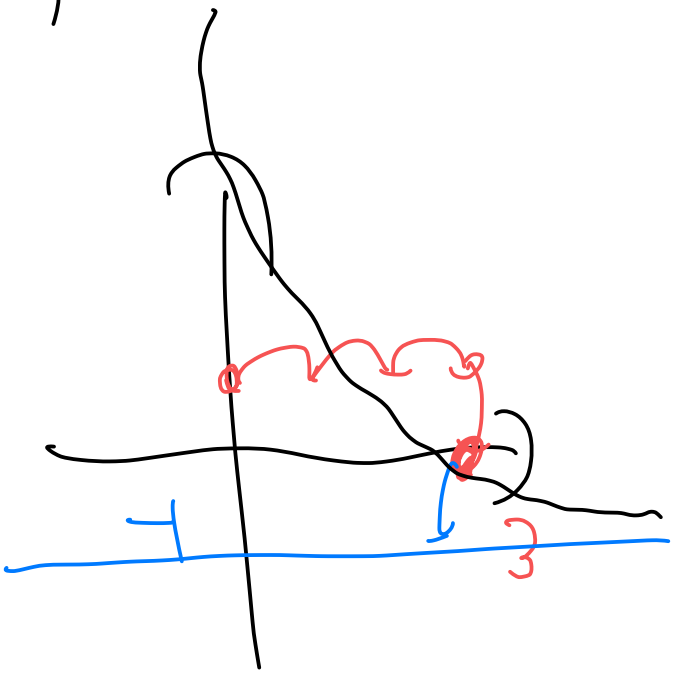
$y = 3^{-x}$ $f(0) = 1$



$x, 3$

$y, -1$

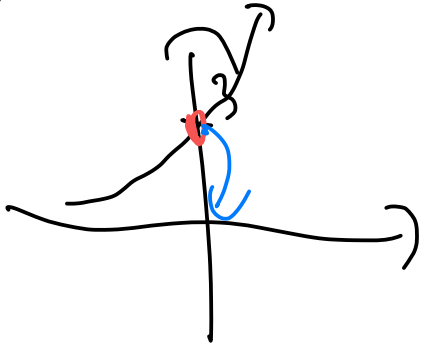
$y = -1$



문제 12. $y = 3 \cdot 7^{\log_7 3^x} - 5$

$= 3 \cdot 3^x \log_7 7 - 5 = 3 \cdot 3^x - 5$

$y = 3 \cdot 3^x$ $f(0) = 3$



$y, -5$

$y > -5$