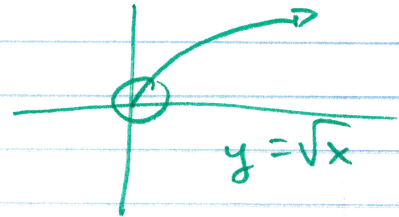
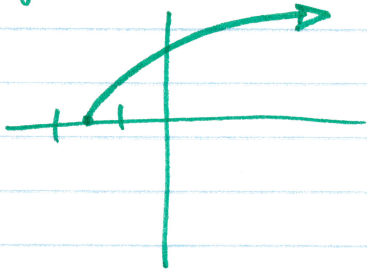


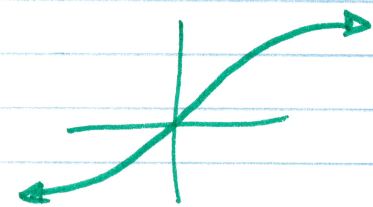
2.3

⑤ $y = \sqrt{2x+3}$



③⑧ $y = x^2 + \sqrt[3]{4-x}$

continuous continuous continuous



$g(f(x))$ $f(x) = 4-x$
 $g(x) = \sqrt[3]{x}$

$x^2 + \frac{1}{x}$

④⑤ ANY NUMBER IS LESS THAN ITS FOURTH POWER

$x = x^4 - 1$

$x = x^2 - 1$
 $-x \cdot x$
 $0 = x^2 - x - 1$

④⑨ $f(x) = \begin{cases} 4-x^2, & x < -1 \\ ax^2-1, & x \geq -1 \end{cases}$

$\lim_{x \rightarrow -1^-} f(x) = 3$

$\lim_{x \rightarrow -1^+} f(x) = 3 = a(-1)^2 - 1$

$4 = a$

2.3
⑤ $e^{-x} = x$

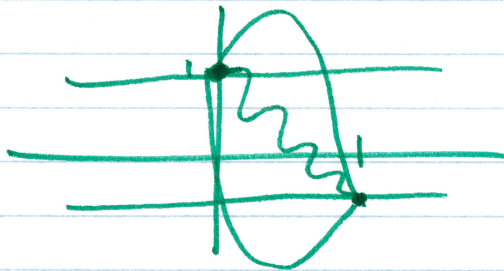
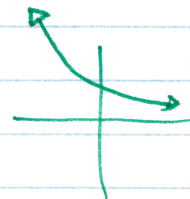
$e^{-x} - x = 0$

$e^{-0} - 0 = 1$

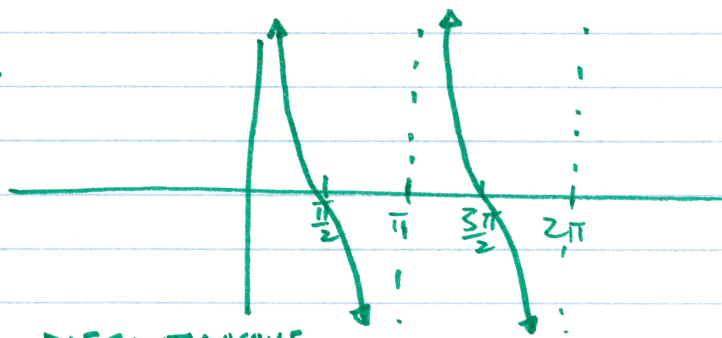
$e^{-1} - 1 < 0$

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

3^{-1}
 $\frac{1}{3}$



⑧ $y = \cot x$



$0 \pm \pi k$ DISCONTINUOUS