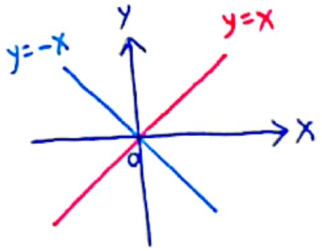
## ① Linear Function



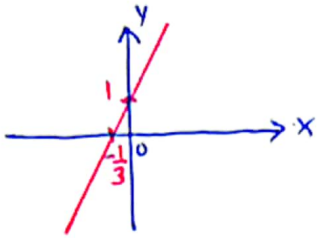

Hint:

$y = mx + c$

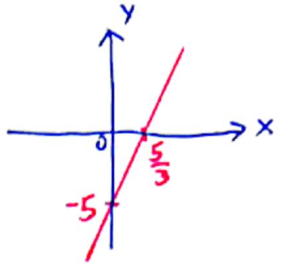
m = gradient

c = y-intercept

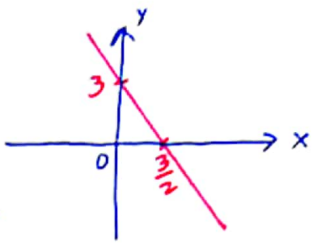
$y = 3x + 1$



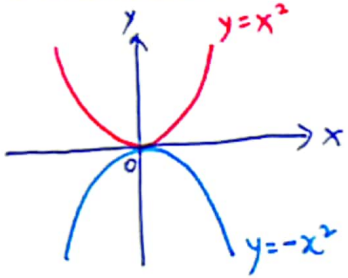

$y = 3x - 5$



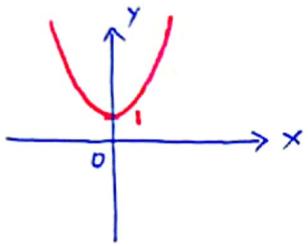

$y = -2x + 3$



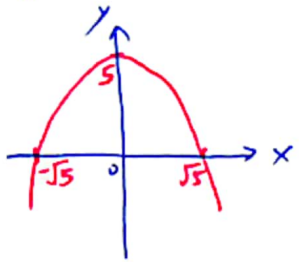

## ② Quadratic Function



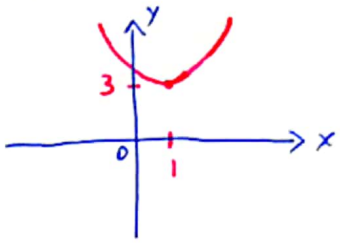

$y = 3x^2 + 1$



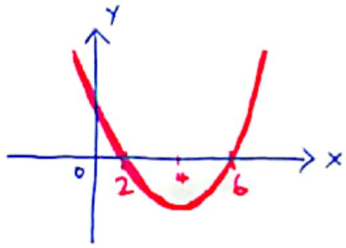

$y = 5 - x^2$



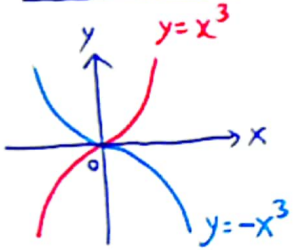

$y = (x-1)^2 + 3$



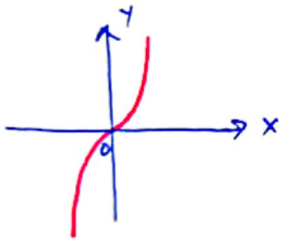

$y = (x-2)(x-6)$



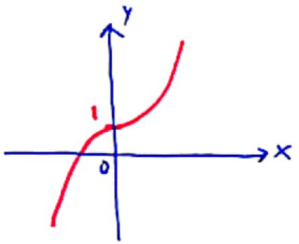

## ③ Cubic Function



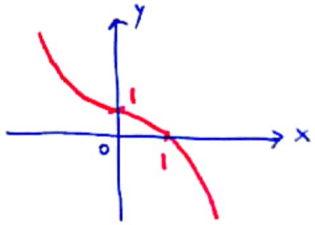

$y = 5x^3$



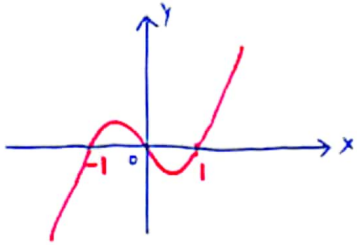

$y = 2x^3 + 1$



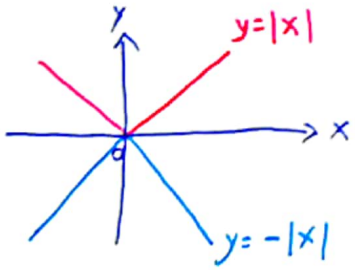

$y = 1 - x^3$




$y = x(x+1)(x-1)$




## ④ Absolute Value Function

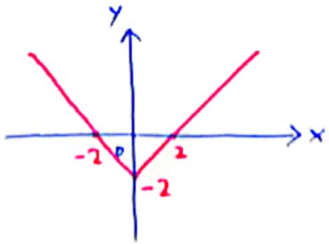



Hint:

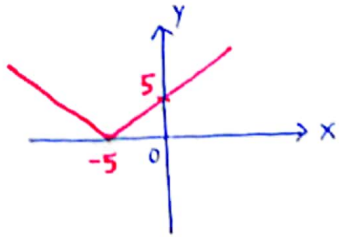
① Sketch linear function (without modulus)

② Reflection graph (from below x-axis to above x-axis)

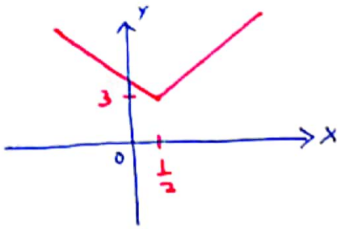
$y = |x| - 2$



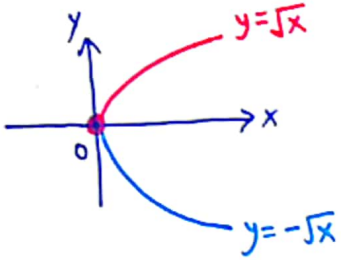

$y = |x+5|$




$y = |2x-1| + 3$



## ⑤ Square root Function




Hint:

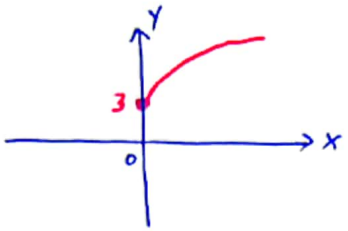
$y=\sqrt{k}$

Domain: $k \geq 0$

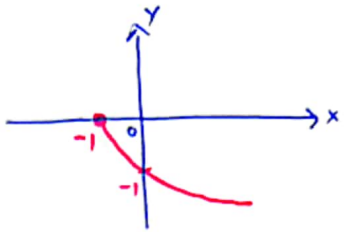
Intercept:

Signs: $x_{\pm}\ y_{\pm}$

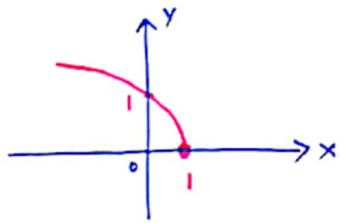
$y=\sqrt{x}+3$



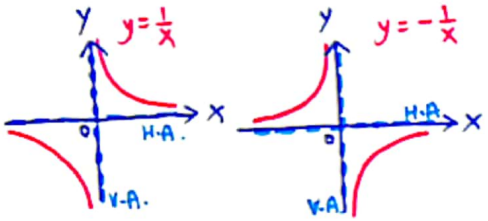

$y=-\sqrt{x+1}$




$y=\sqrt{1-x}$




## ⑥ Reciprocal Function




Hint:

$y=\frac{1}{k}$

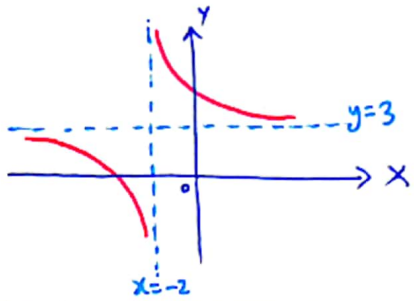
Domain: $k \neq 0$

Asymptotes: Vertical Asy. (V.A.)
Horizontal Asy. (H.A.)

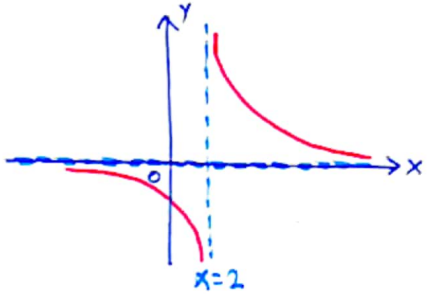
Intercepts:

Signs: $x_{\pm}\ y_{\pm}$

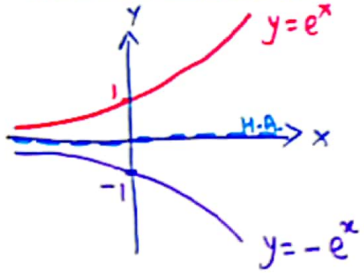
$y=\frac{4}{x+2}+3$




$y=\frac{9}{x-2}$




## ⑦ Exponential Function




Hint:

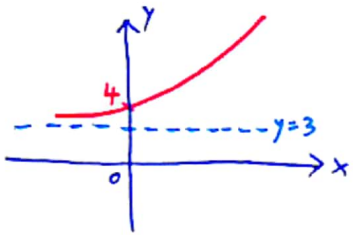
Domain: $(-\infty, \infty)$

Asymptote: (H.A.) $y=$ ___

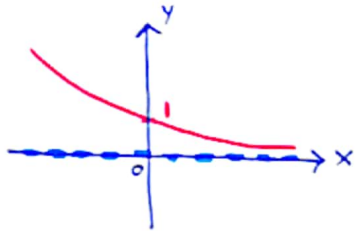
Intercept:

Signs: $x_{\pm}\ y_{\pm}$

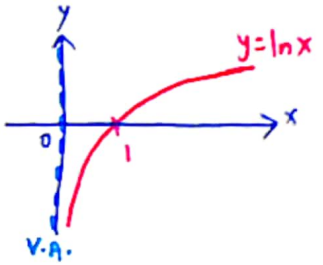
$y=e^{2x}+3$




$y=5e^{-2x}$




## ⑧ Logarithmic Function




Hint:

$y=\ln(k)$

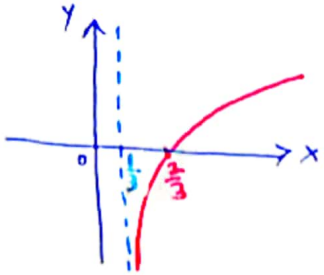
Domain: $k > 0$

Asymptote: (V.A.) $x=$ ___

Intercept:

Signs: $x_{\pm}\ y_{\pm}$

$y=\ln(3x-1)$




$y=\ln(1-2x)$