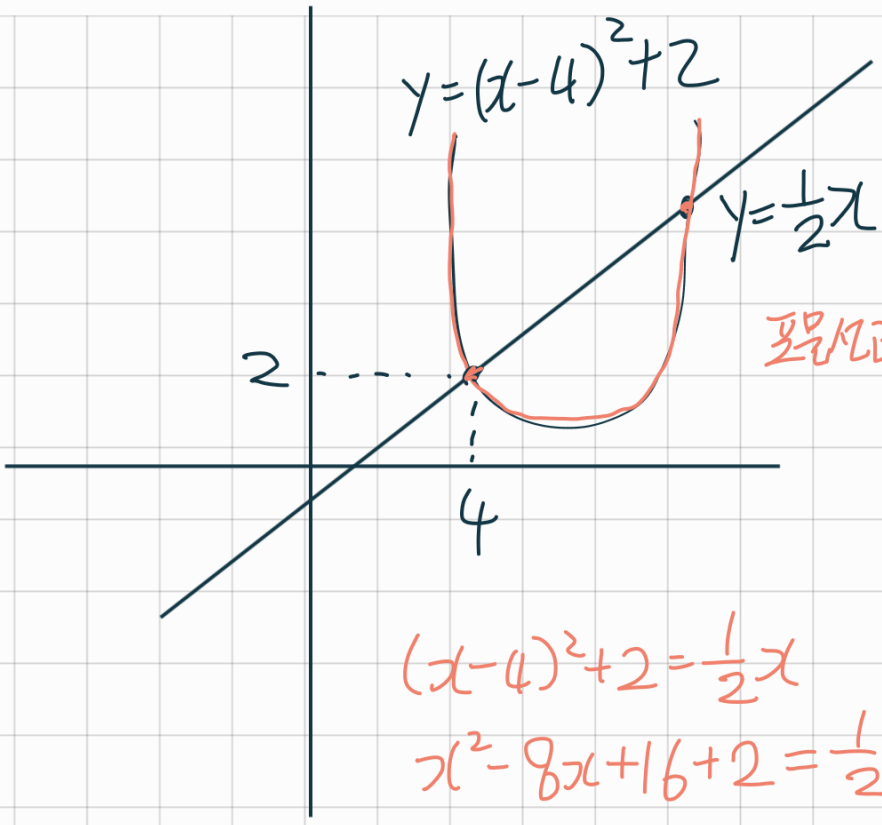

포물선과 직선의 교점 찾기

$(x-4)^2+2=\frac{1}{2}x$

$x^2-8x+16+2=\frac{1}{2}x$

$2x^2-16x+36=x$

$2x^2-17x+36=0$

$ax^2+bx+c=0$

$x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$

$\frac{17\pm\sqrt{17^2-4\times2\times36}}{2\times2}$

$a=2$

$b=-17$

$c=36$

$$f'(a)=\lim_{h\to 0}\frac{f(a+h)-f(a)}{h}$$

미분 = 기울기 $= \frac{\Delta y}{\Delta x}$

Δ (변화량)

$\Delta x \longrightarrow$ 극한: lim

$$\lim_{\Delta x\to 0}\frac{\Delta y}{\Delta x} = \text{미분}$$

독립변수, 종속변수

$y=f(x)$

↑ 데이터 개체 스칼라

$z=f(x,y)$ $\quad \frac{dy}{dx}$ 전미분

↑ 데이터 그래픽 벡터

$\frac{\partial z}{\partial x}$ $\frac{\partial z}{\partial y}$

전미분 derivative

Partial

$z=f(x,y)$

$=2x^2y+3y^2+9x$

$\frac{\partial z}{\partial x}=2y\cdot 2x+0+9$

$$\lim_{h\to 0}\frac{f(x+h,y)-f(x,y)}{h}$$

$$\frac{\partial z}{\partial y}=\lim_{h\to 0}\frac{f(z,y+h)-f(z,y)}{h}$$

$\frac{\partial z}{\partial y}=?$

변수를 상수로 생각해보기

$2x^2y+3y^2+9x$

$\frac{\partial z}{\partial x}=2y\cdot 2x+0+9$

$y=f(x)$

$t=f(r,u,v)$

$=3r^2uv+6r^3+7ruv^2+9r$

라운드

$\frac{\partial t}{\partial r}=?$ $\quad \frac{\partial t}{\partial v}=?$

$\frac{\partial t}{\partial u}=?$