Ex1.

(A) If $c>0$

(B) $a=-3$. $b=-2$.

(C) $-6<ab<12$.

Remark: 舉反例

Ex2 $5-2(x+1)\geq 3x+2$

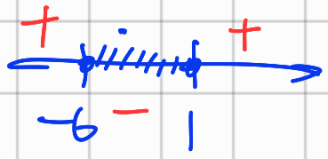
Sol: $5-2x-2\geq 3x+2$

$1\geq 5x \Rightarrow x\leq \frac{1}{5}$ //

S_2 Remark: 求max min

Ex3. $x^2+5x-6\leq 0$

Sol: $(x+6)(x-1)\leq 0$



$-6\leq x\leq 1 \Rightarrow [-6, 1]$.

Remark: 有"="用[ ]

沒有"="用( )

Ex4. $x\in\mathbb{R}$

$x^2+2x+1=(x+1)^2$

≥ 0

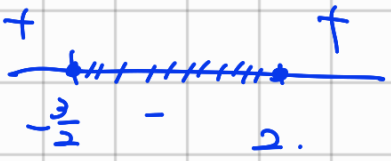
(A) $x=-1$?

(B) $\neq$

(D) $x=-1$

Ex5. $ax^2+x+b\geq 0$ $-\frac{3}{2}\leq x\leq 2$. $a+b=?$

Sol:



$\Rightarrow (x+\frac{3}{2})(x-2)\leq 0$

$\Rightarrow (2x+3)(x-2)\leq 0$

$\Rightarrow 2x^2-4x+3x-6\leq 0$

$\Rightarrow 2x^2-x-6\leq 0$

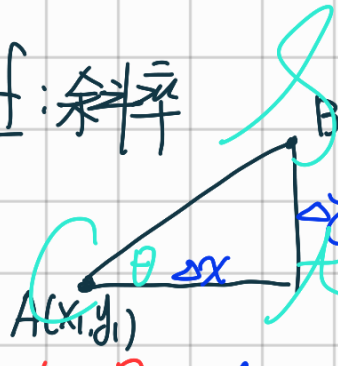
$\Rightarrow -2x^2+x+6\geq 0$

$\Rightarrow \begin{cases} a=-2 \\ b=6 \end{cases}$ $\Rightarrow a+b=4$ ///

Chap.2 直線方程式.

Def: 斜角

Def: 斜率



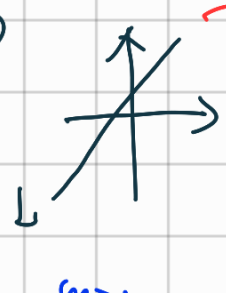
$\tan\theta = m_{\overline{AB}} = \frac{\Delta y}{\Delta x} = \frac{y_2-y_1}{x_2-x_1}$

Ex1. $A(5,-2)$ $B(1,-3)$

$m_{\overline{AB}} = \frac{-3-(-2)}{1-5} = \frac{-1}{-4} = \frac{1}{4}$ ///

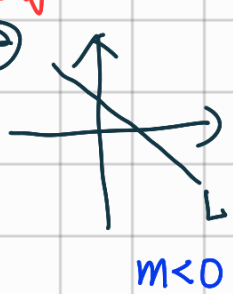
Cor: 斜率圖形走向.

① 一對一



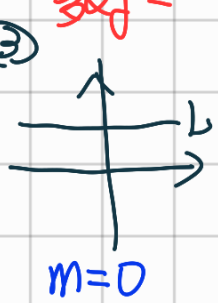
$m>0$

②



$m<0$

③ 多對一



$m=0$

④ 一對多

m #

Def: 点斜式. (5%)

$A(x_0, y_0)$, m. $\quad L: y-y_0=m(x-x_0)$

Def: 兩点式. (0%)

$A(x_0, y_0)$ $B(x_1, y_1)$. $\quad L: y-y_0=\frac{y_1-y_0}{x_1-x_0}(x-x_0)$.

$\frac{y_1-y_0}{x_1-x_0}$ → m

Def: 截距式. (5%) 兩軸

$(a,0)$ $(0,b)$

a: x截距 $\quad b$: y截距

$L: \frac{x}{a}+\frac{y}{b}=1$

Def: 斜截式. (9%)

m. y截距 $(0,b)$. $\quad L: y=mx+b$.

Def: 一般式. $L: ax+by+c=0$. (通式)

Thm: $L: ax+by+c=0 \iff m=-\frac{a}{b}$.

proof: "⇒"

$ax+by+c=0 \Rightarrow by=-ax-c$

$\Rightarrow$ "$y=-\frac{a}{b}x-\frac{c}{b}$".

"m $\quad$ 截距

"⇐" trival

//

e.g. $2x+3y-7=0$ $\quad m=-\frac{2}{3}$.

e.g. $-2x-3y-7=0$ $\quad m=-\frac{-2}{-3}=-\frac{2}{3}$.

e.g. $2x-3y-7=0$ $\quad m=-\frac{2}{3}$

$=\frac{2}{3}$.

e.g. $x-y+7=0$ $\quad m=1$

P.33

Ex2. $m=-\frac{3}{2}$.

Remark: $\begin{cases} x=a \text{ 為鉛直線} \\ y=b \text{ 為水平線} \end{cases}$

③

與x軸交 $\Rightarrow y=0$ 代入.

Remark: ① $y=-x$ $m=-1 \Rightarrow \theta=135°$

② $y=x$ 或圖形, $m=1 \Rightarrow \theta=45°$.

$m=\frac{2}{2}=1$.

$y=x-\frac{1}{a}$

② $y=x+c$, 其中c為截距且控制「上下平移」.