

2 (iii) Consider  $\exp(s_1 - s_2) = \frac{e^{s_1}}{e^{s_2}}$

$$\approx \frac{x^{-3} e^{x^{1/4}}}{1 - \frac{1}{4x^4} + \dots}$$

$$\sim x^{-3} e^{x^{1/4}}$$

Stokes lines  $\text{Im}(x^4) = 0$

$\Rightarrow \sin(4\theta) = 0$  for  $x = |x|e^{i\theta}$

$\Rightarrow \theta = \frac{n\pi}{4}, n \in \mathbb{Z}$

Anti-Stokes lines

$\text{Re}(x^4) = 0$

$\Rightarrow \cos(4\theta) = 0$

$\Rightarrow 4\theta = \frac{(2n+1)\pi}{2}$

ie.  $\theta = \frac{(2n+1)\pi}{8}$

