

$$u = p + q, \quad v = p - q$$

$$x = (p + q)/a, \quad y = (p - q)/b$$

$$p = \frac{1}{2}(ax + by), \quad q = \frac{1}{2}(ax - by)$$

$$\text{B.C.}, \quad f = 0 \text{ for } p = 0 \text{ or } q = 0$$

$$\text{or } f = 0 \text{ for } y = \pm \frac{ax}{b}, \quad \tan \theta = \pm \frac{a}{b}$$

$$\partial_t f - D \nabla^2 f = 0, \quad \nabla^2 = \partial_r^2 + \frac{1}{r} \partial_r$$

$$K g + D \frac{m^2}{r^2} g = 0$$

$$K = \partial_t - D \partial_r^2 - D \frac{1}{r} \partial_r$$

$$g = g_0(r) \frac{r^m}{t^\gamma}$$

$$g_0 = \frac{1}{t} e^{-r^2/4Dt}, \quad K g_0 = 0$$

$$K g = g \left\{ \frac{-\gamma}{t} - \frac{m(m-1) \cdot D}{r^2} + \frac{m}{r} \frac{rD}{Dt} - D \frac{m}{r^2} \right\} = -\frac{D m^2}{r^2} g$$

$$\text{solution if } \gamma = m = \frac{\pi}{2(\tan^{-1} a/b)}$$

$$f = g(r) \cos m\theta$$

assume this form

$$\rightarrow 0 \text{ for } \theta = \pm \pi/(2m)$$

$$= \pm \tan^{-1} \frac{a}{b}$$

$$m = \frac{\pi}{2} \left( \tan^{-1} \frac{a}{b} \right)^{-1}$$