

ZLB

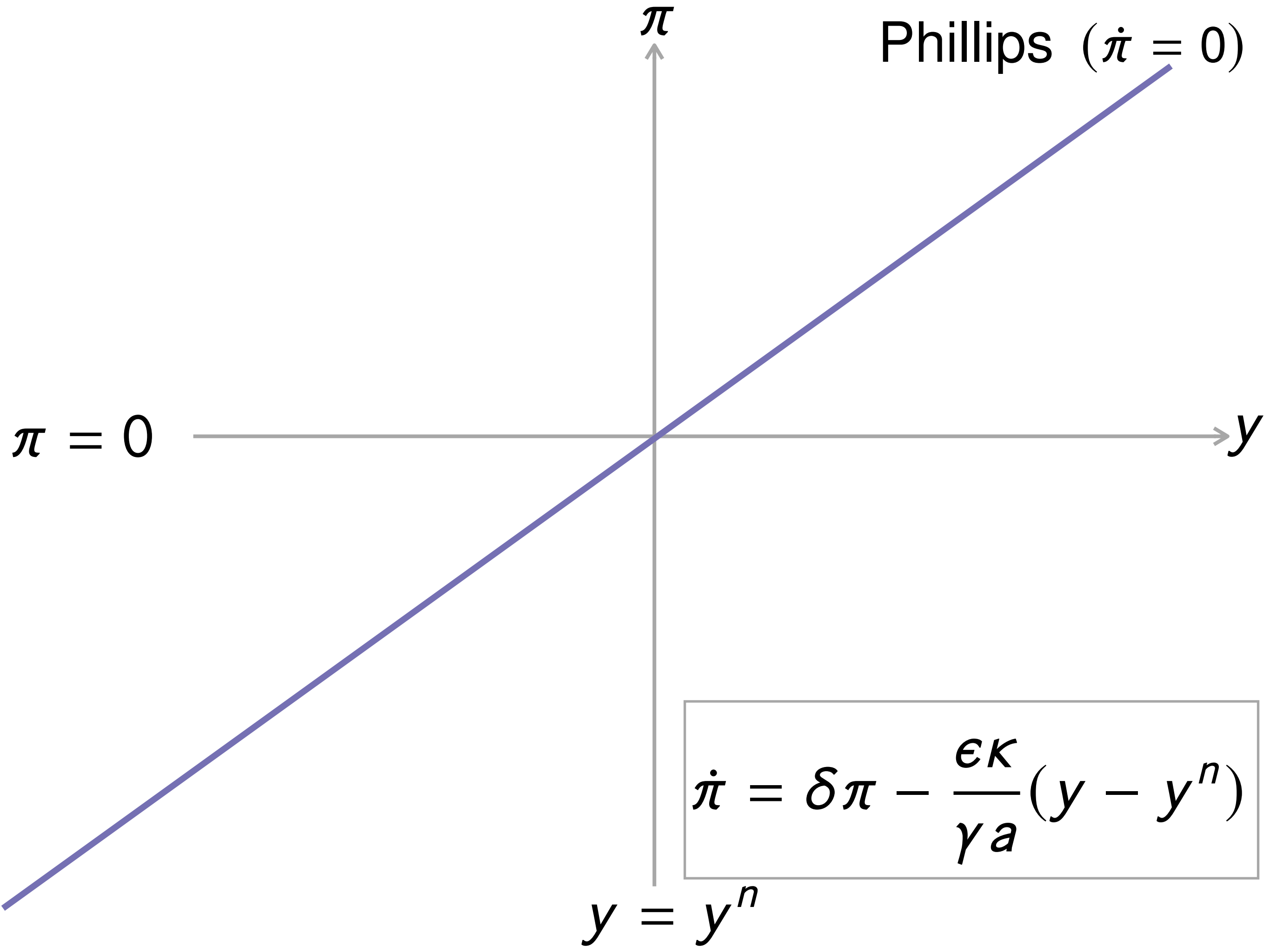
back to natural  
steady state

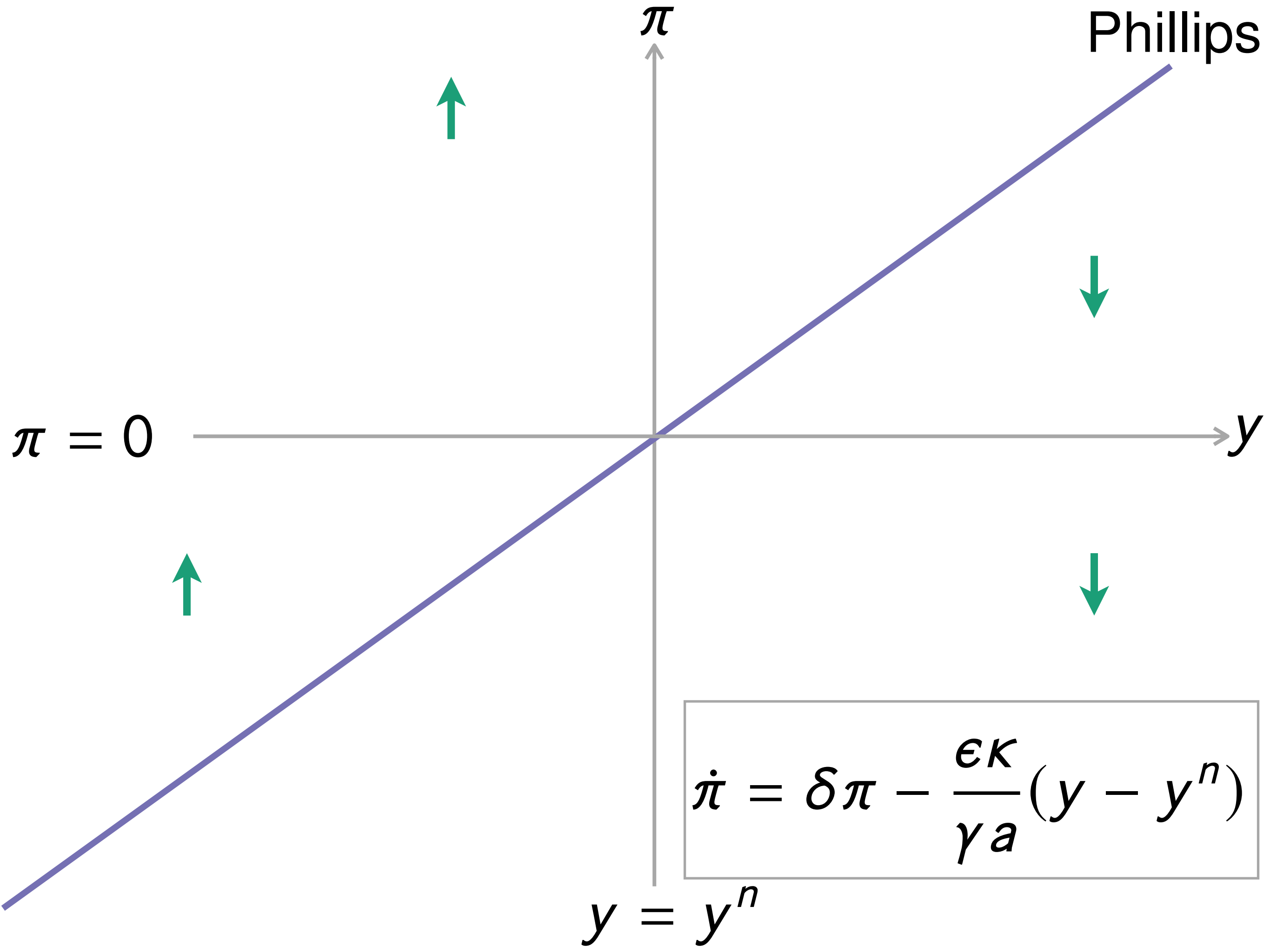
- $r^n < 0$
- $i(\pi) = 0$

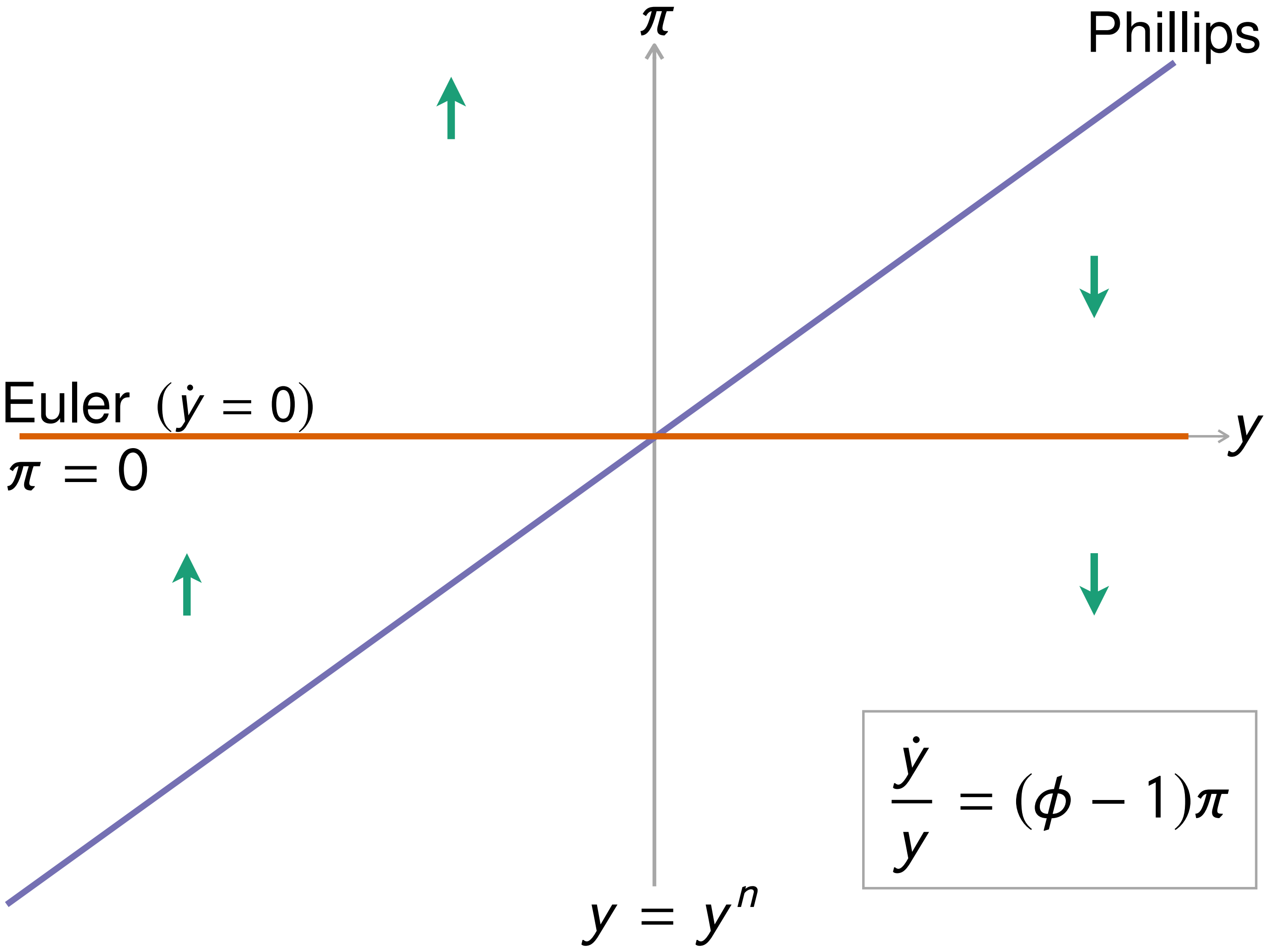
- $r^n > 0$
- $i(\pi) = r^n + \phi\pi$   
 $\phi > 1$

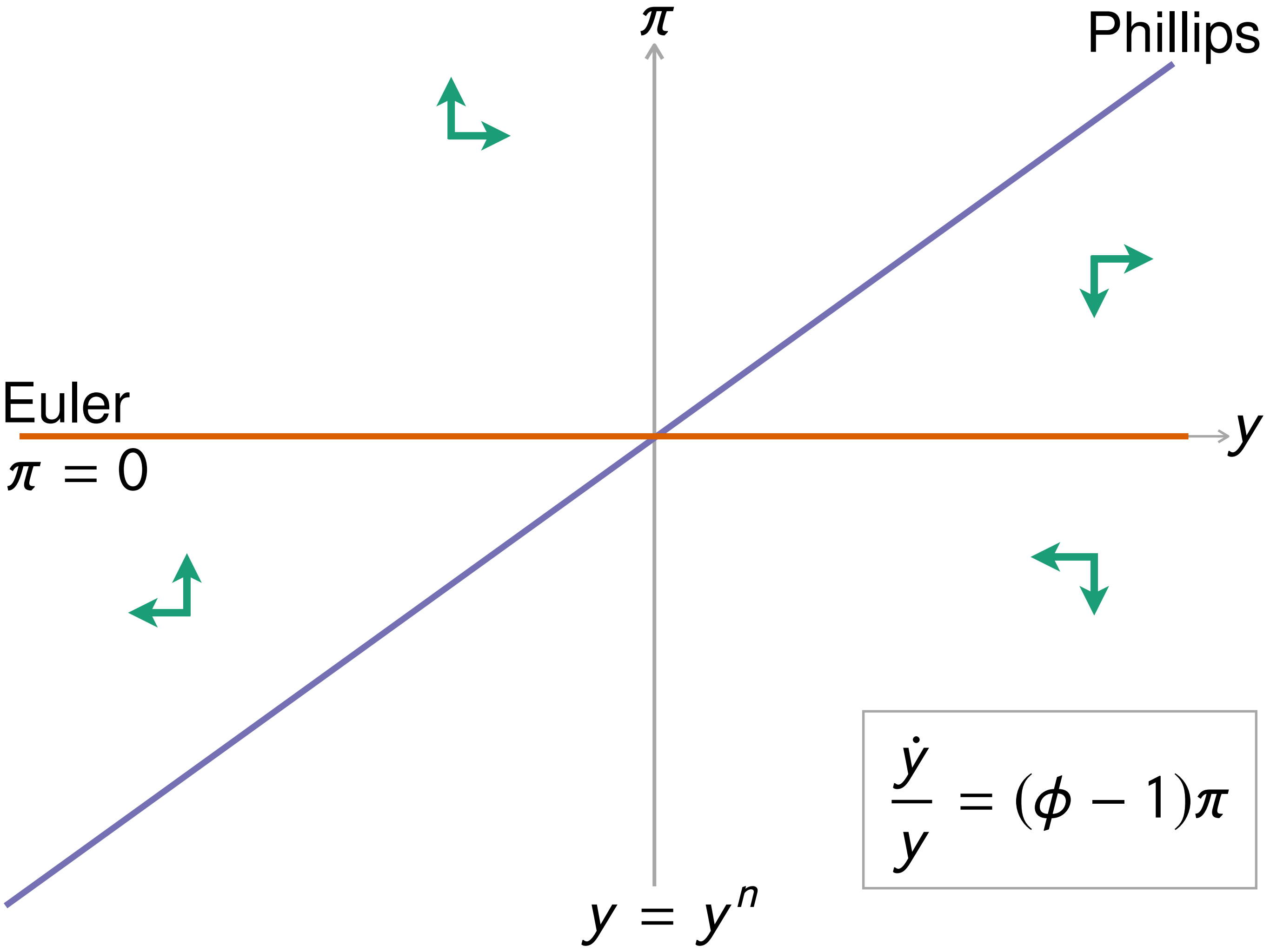
$t = 0$

$t = T$







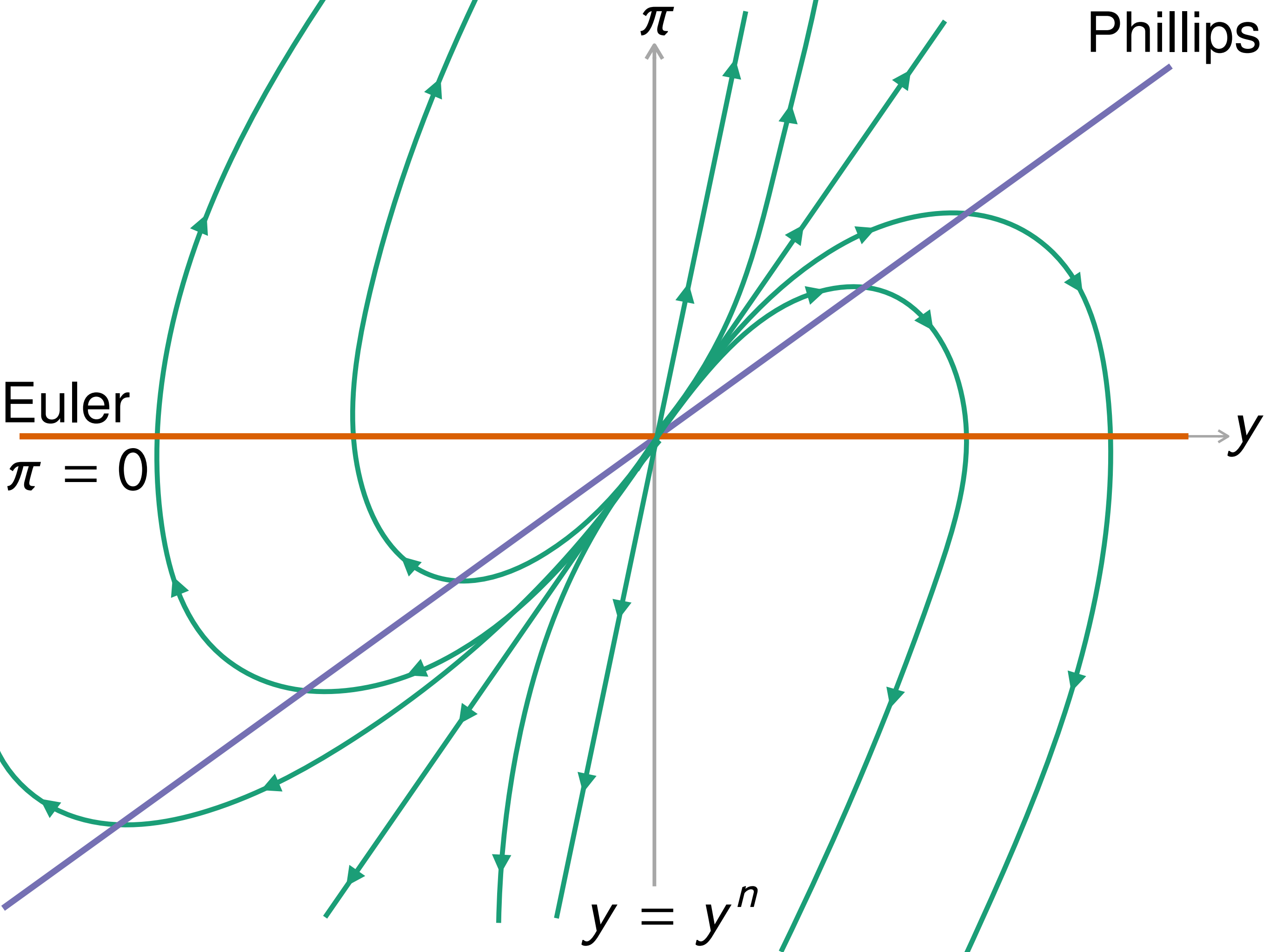


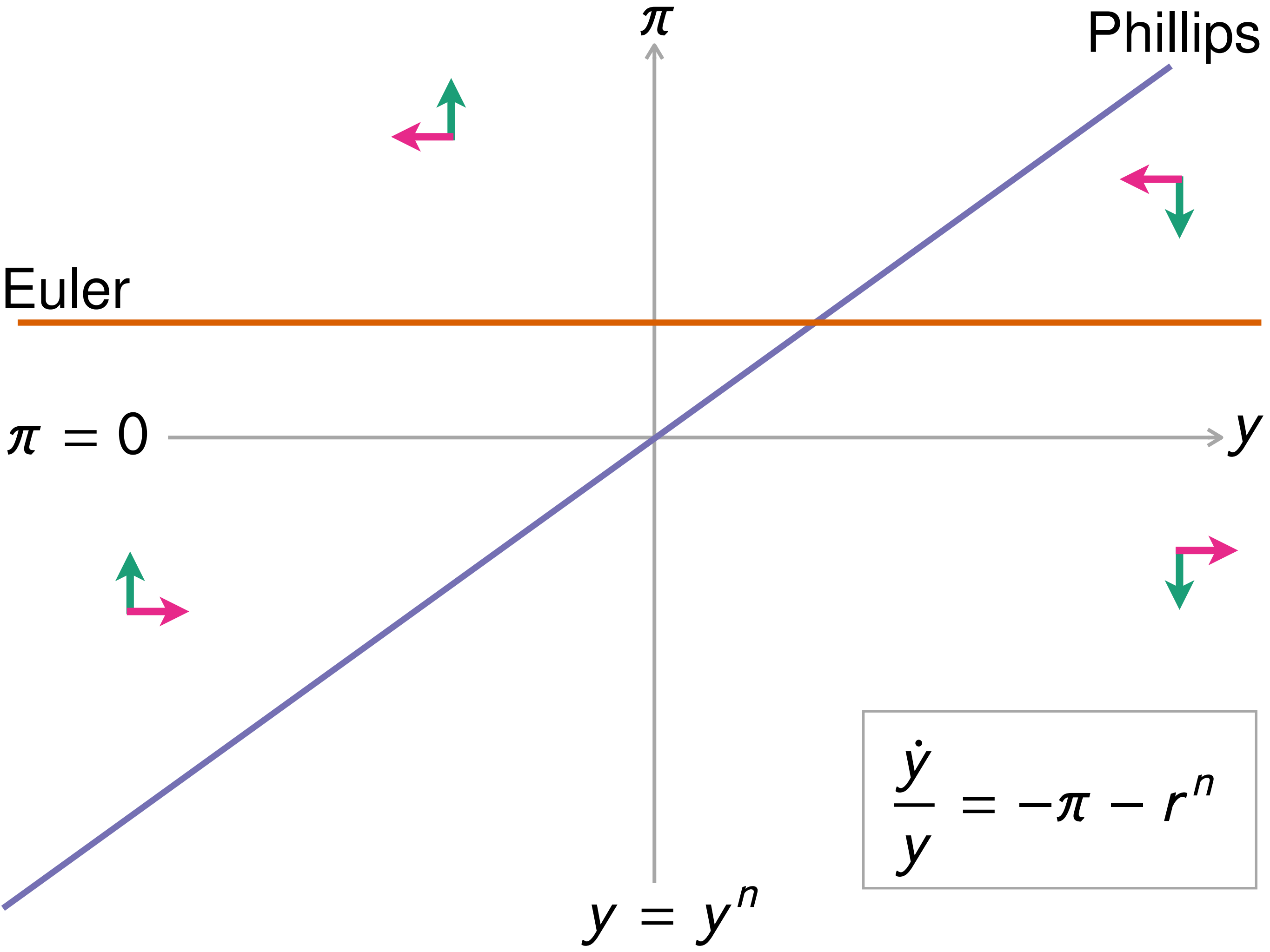
Euler  
 $\pi = 0$

Phillips

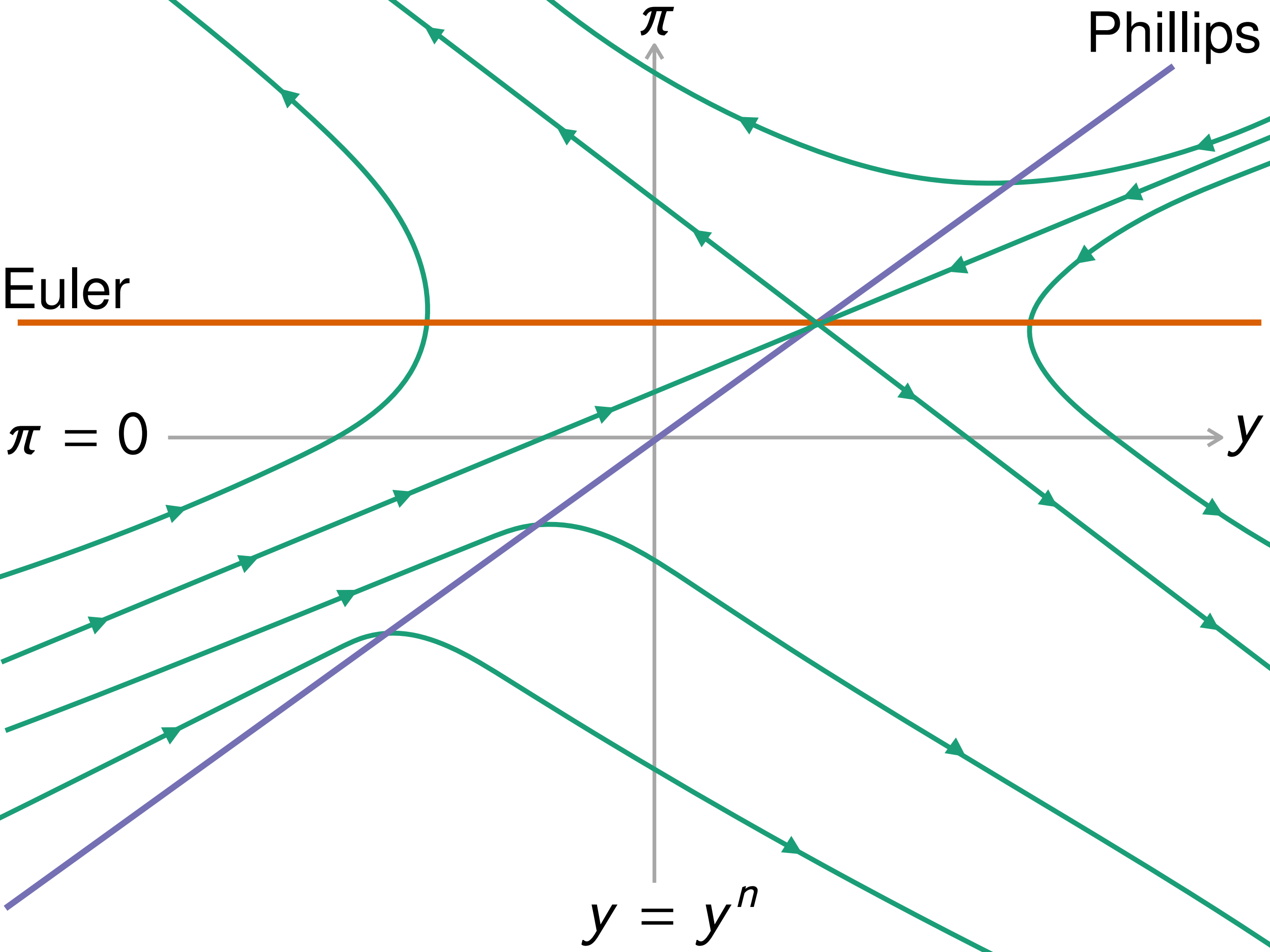
$y = y^n$

$$\frac{\dot{y}}{y} = (\phi - 1)\pi$$

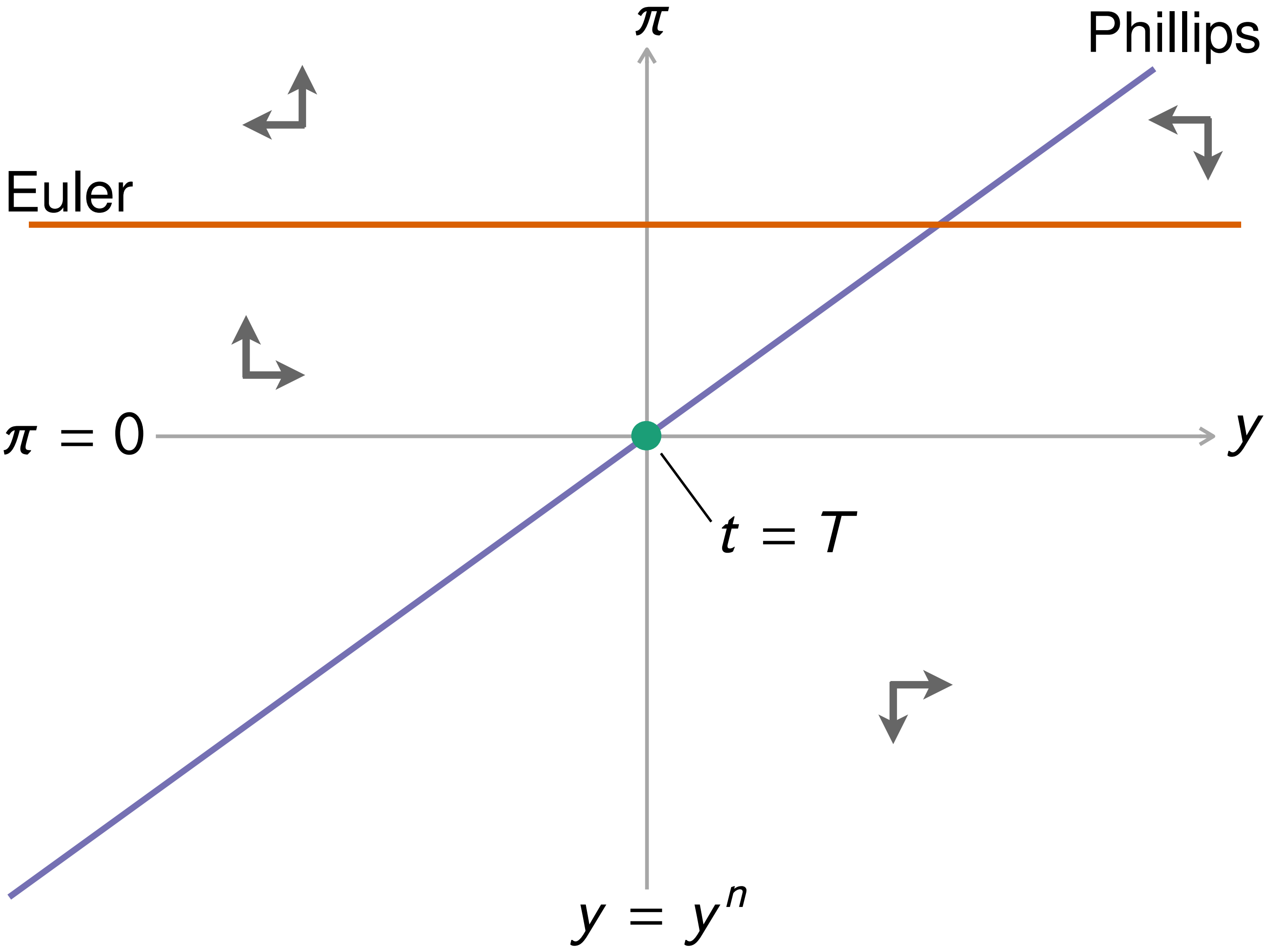


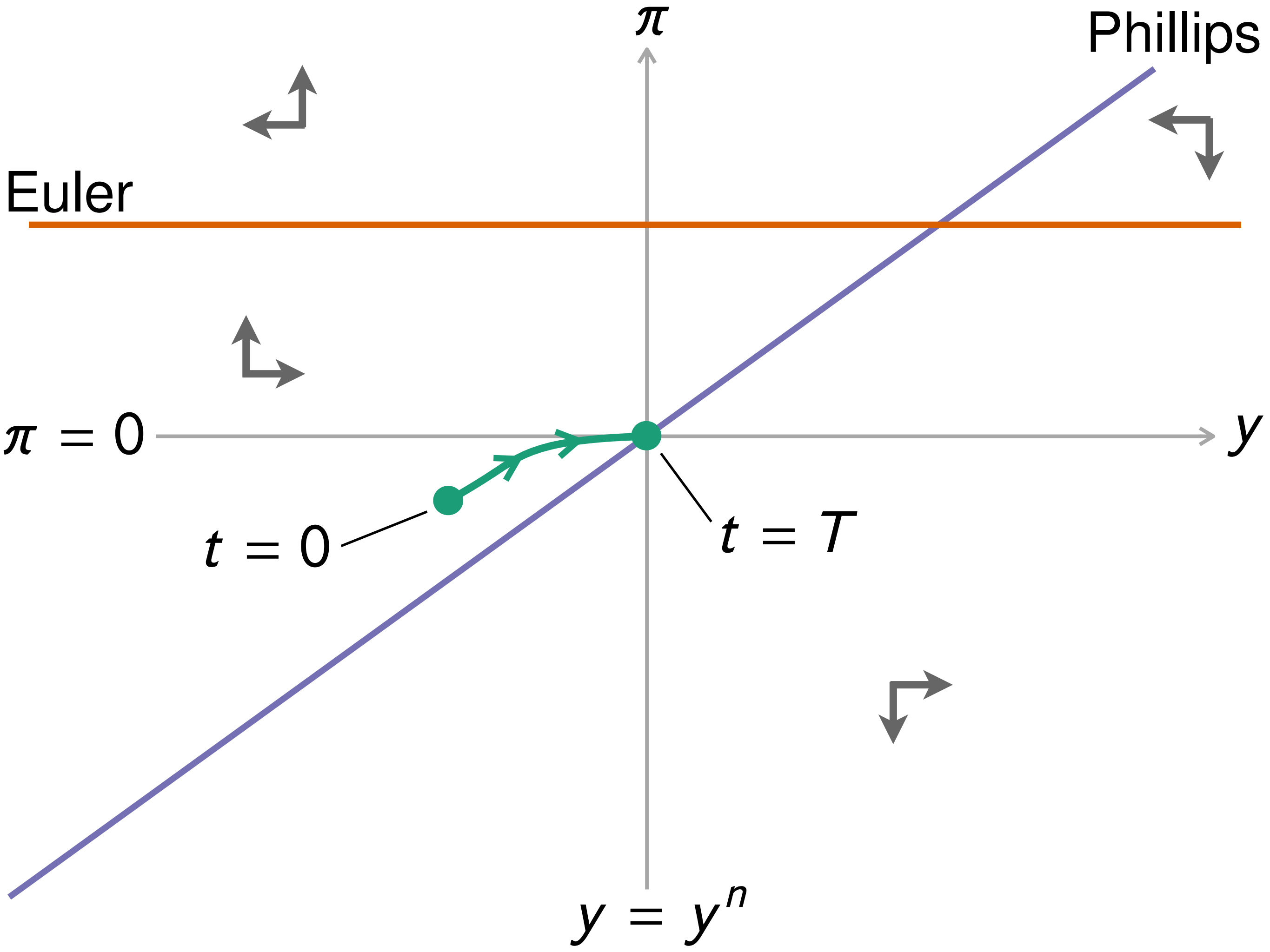


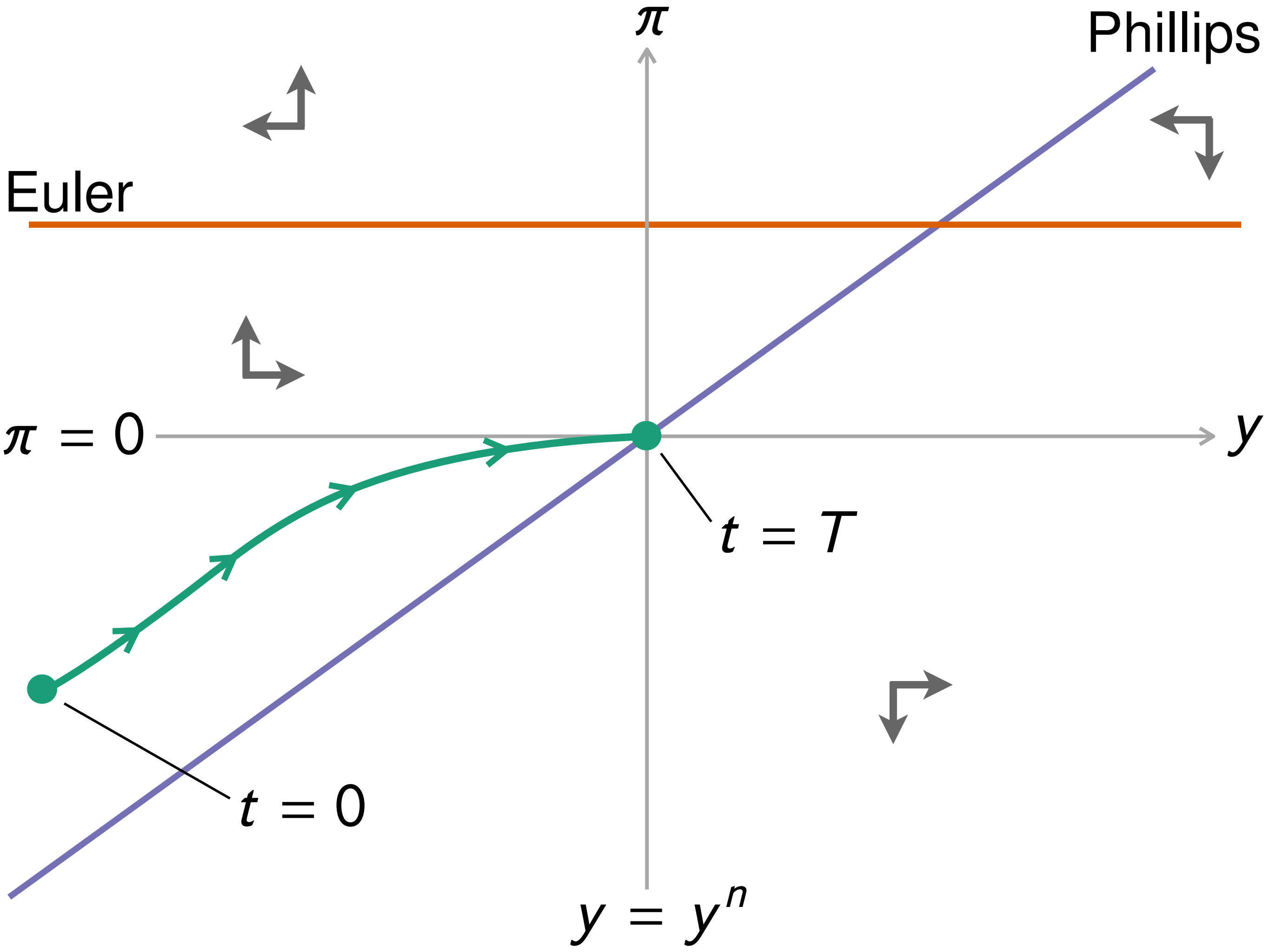
$$\frac{\dot{y}}{y} = -\pi - r^n$$

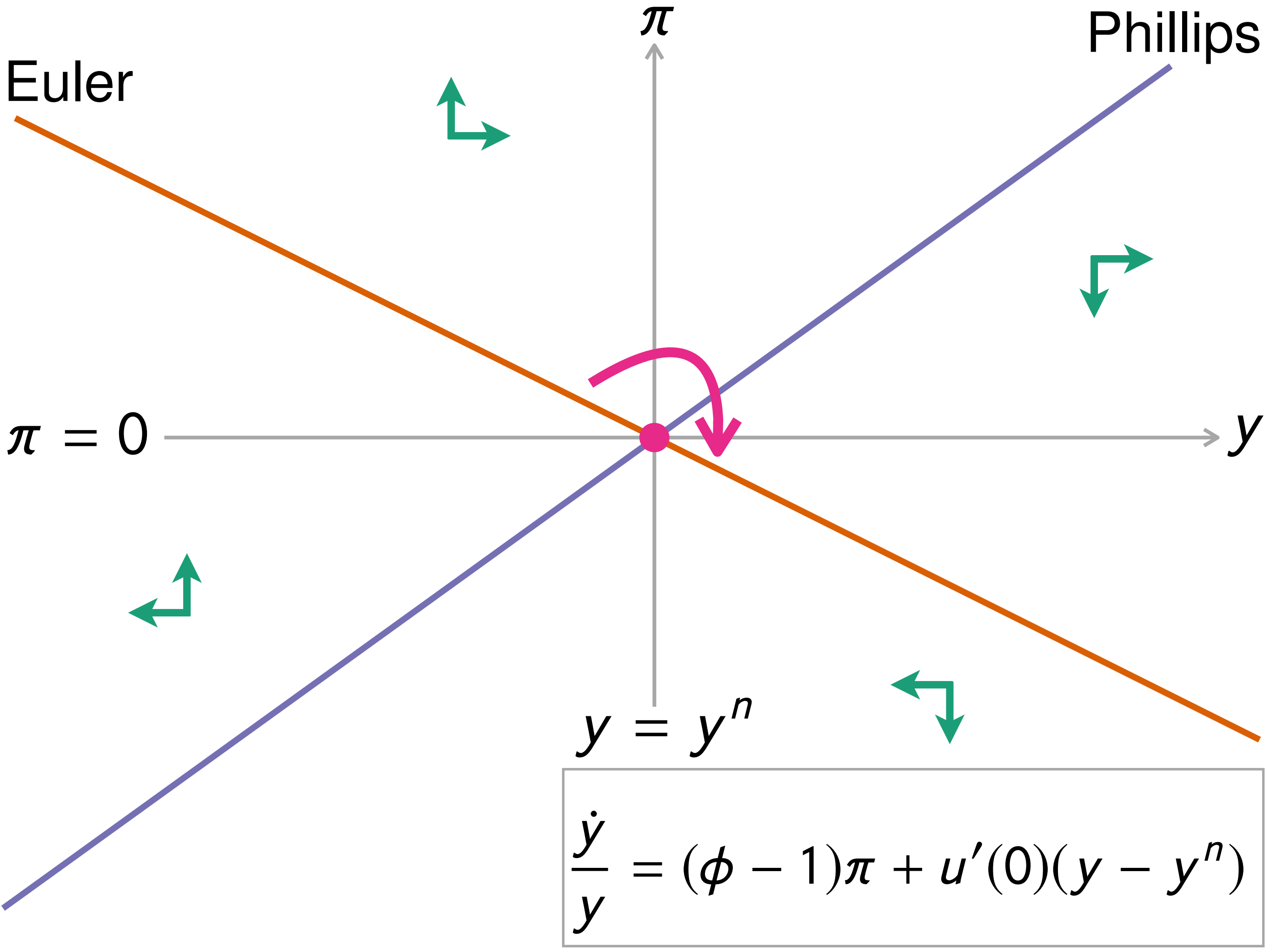


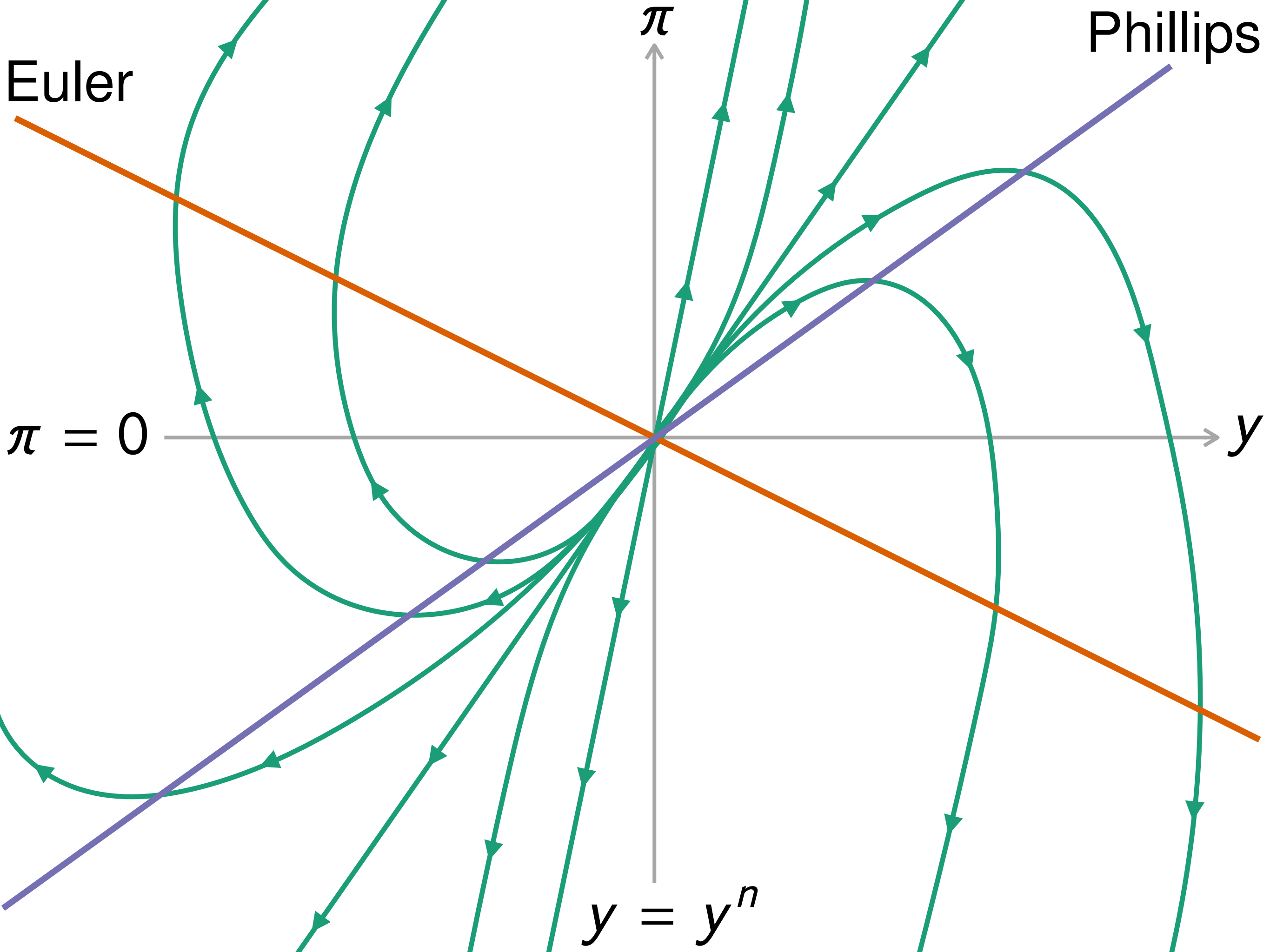


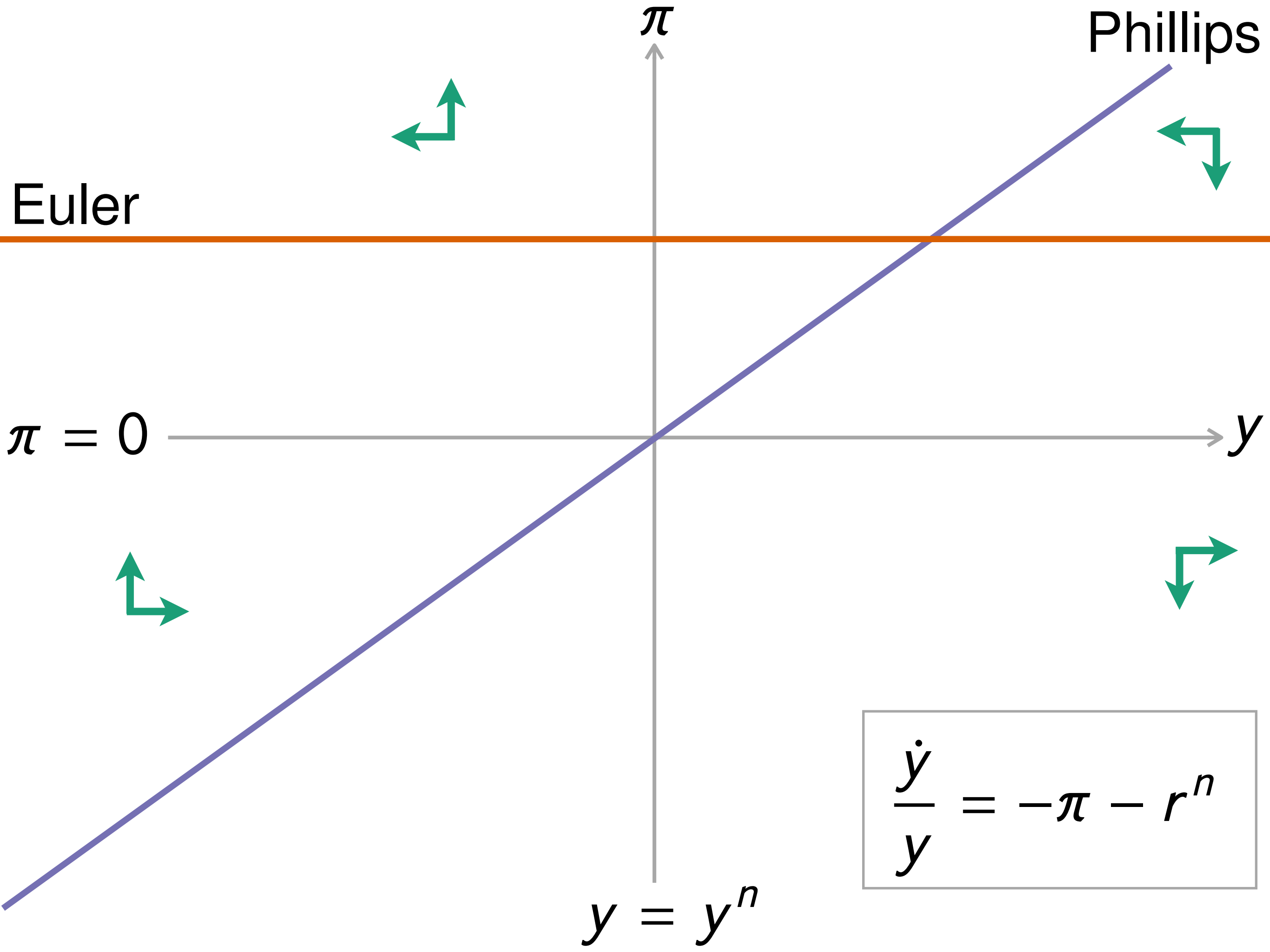


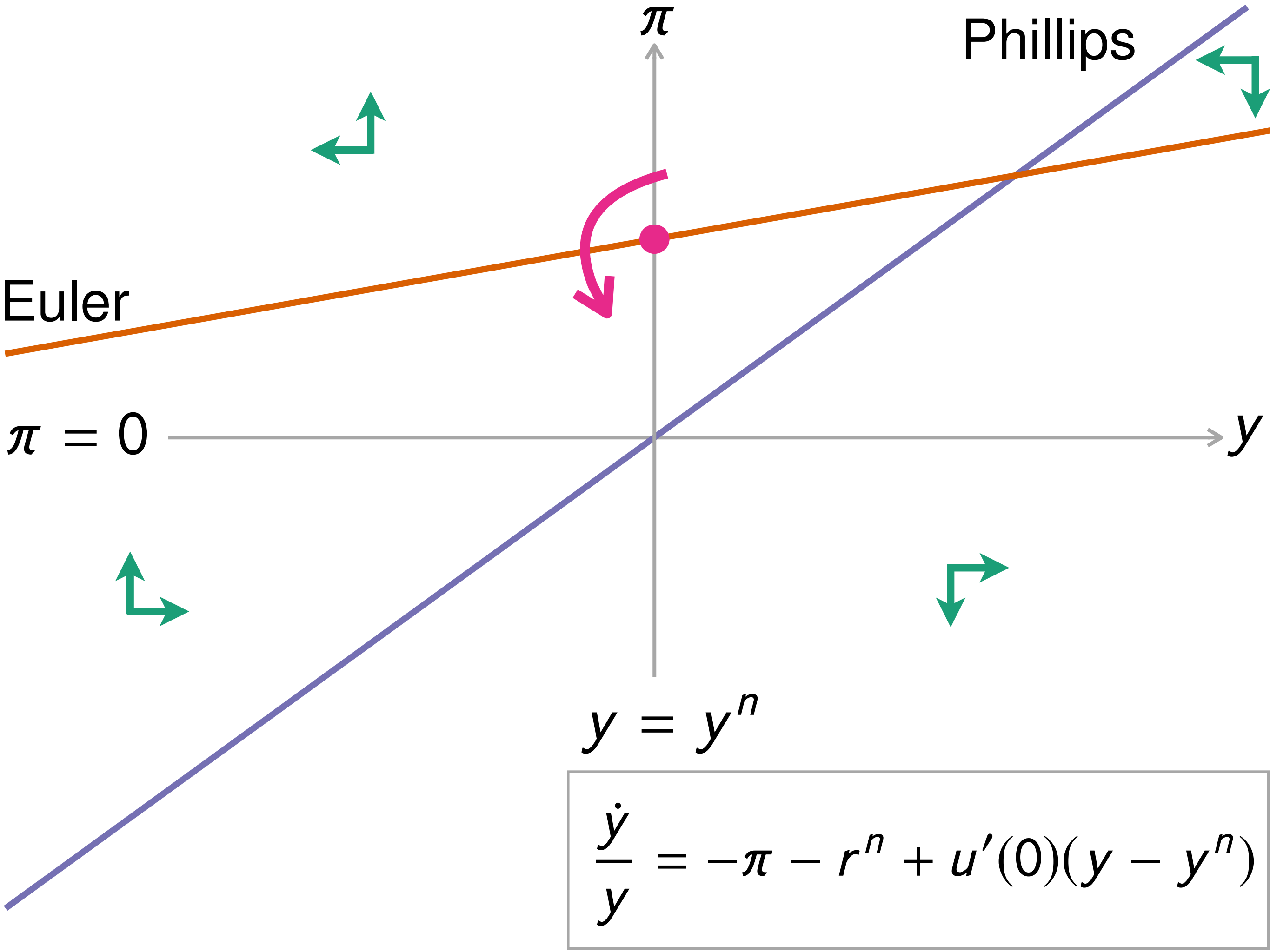


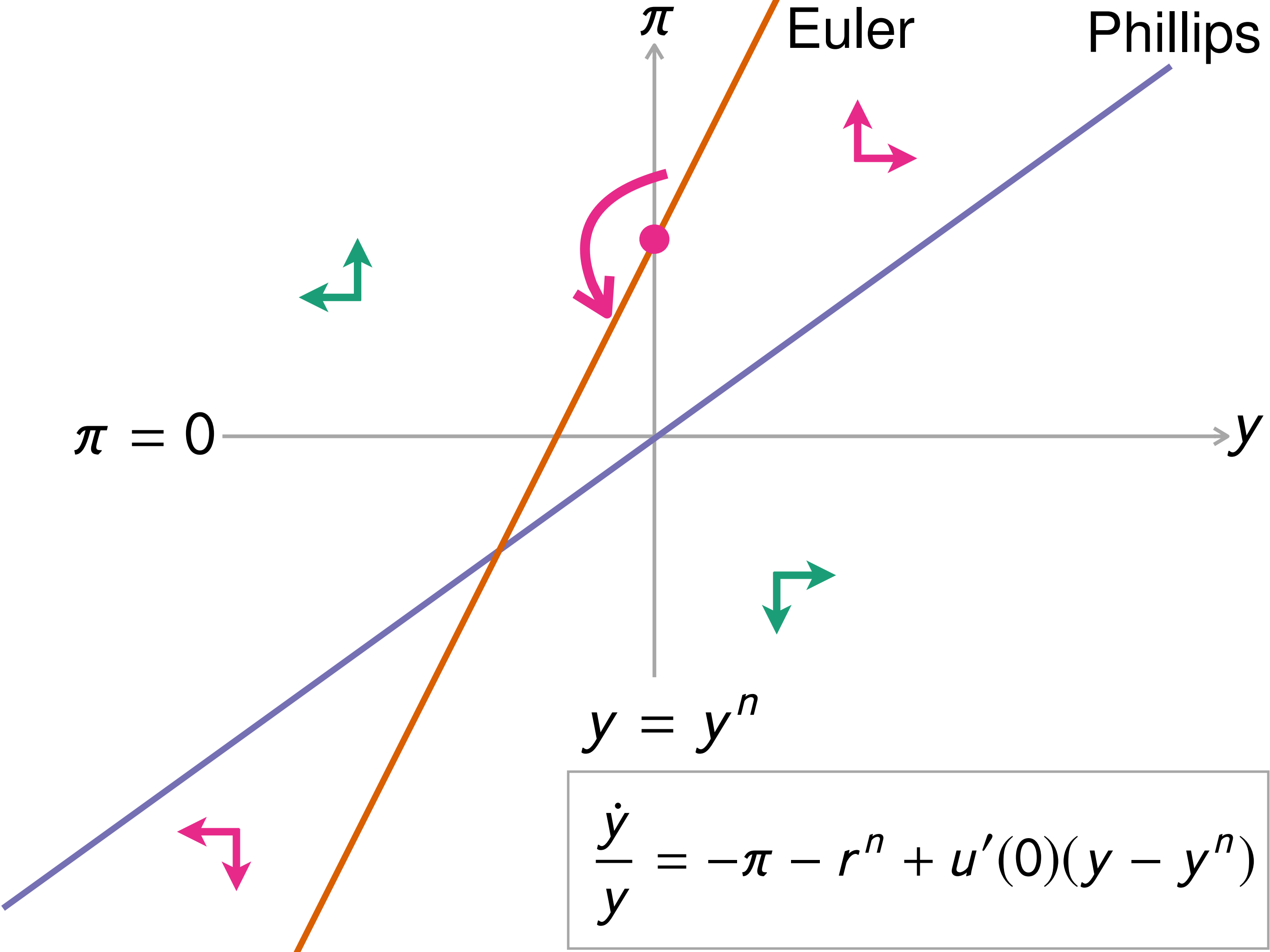




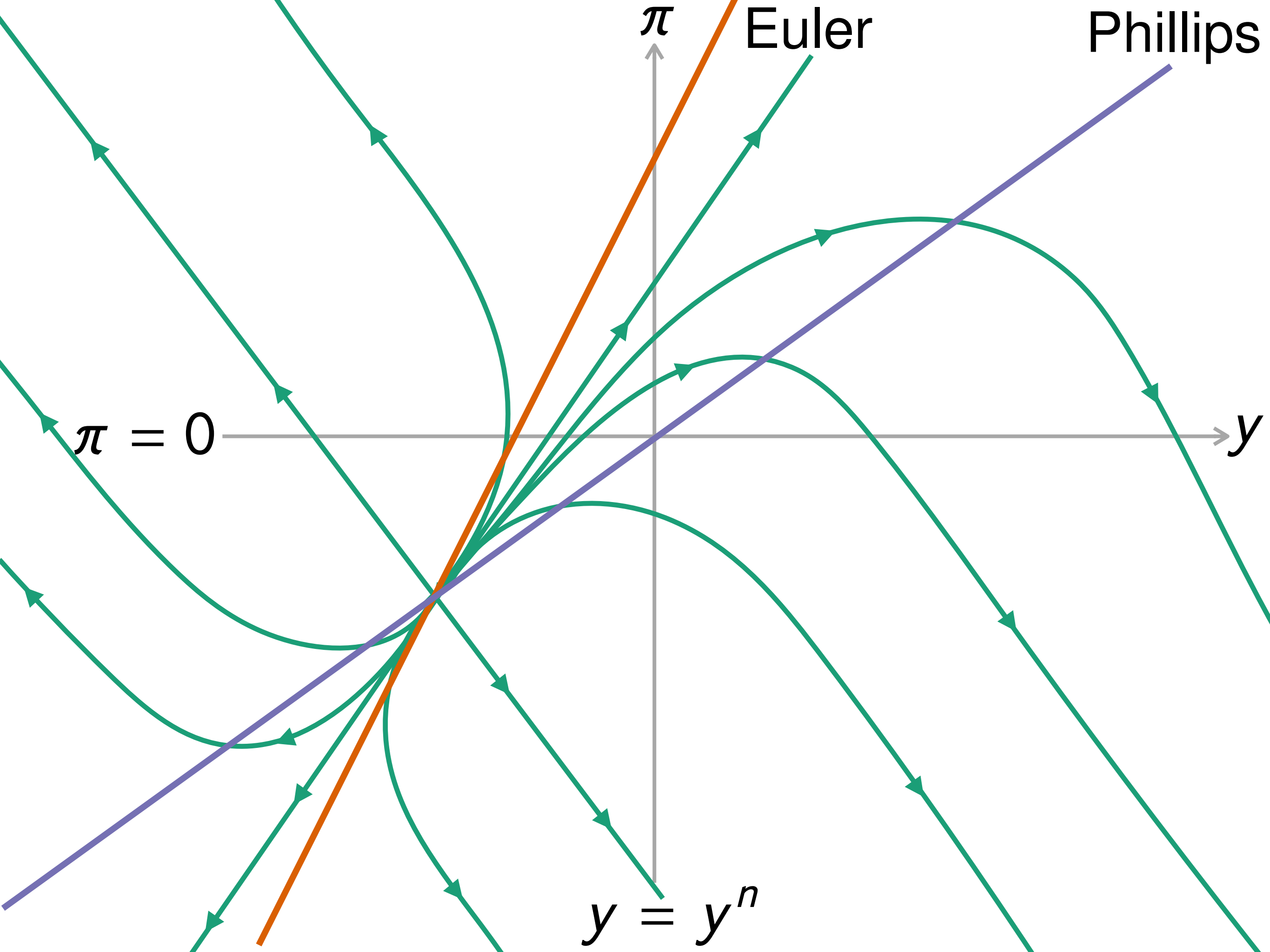


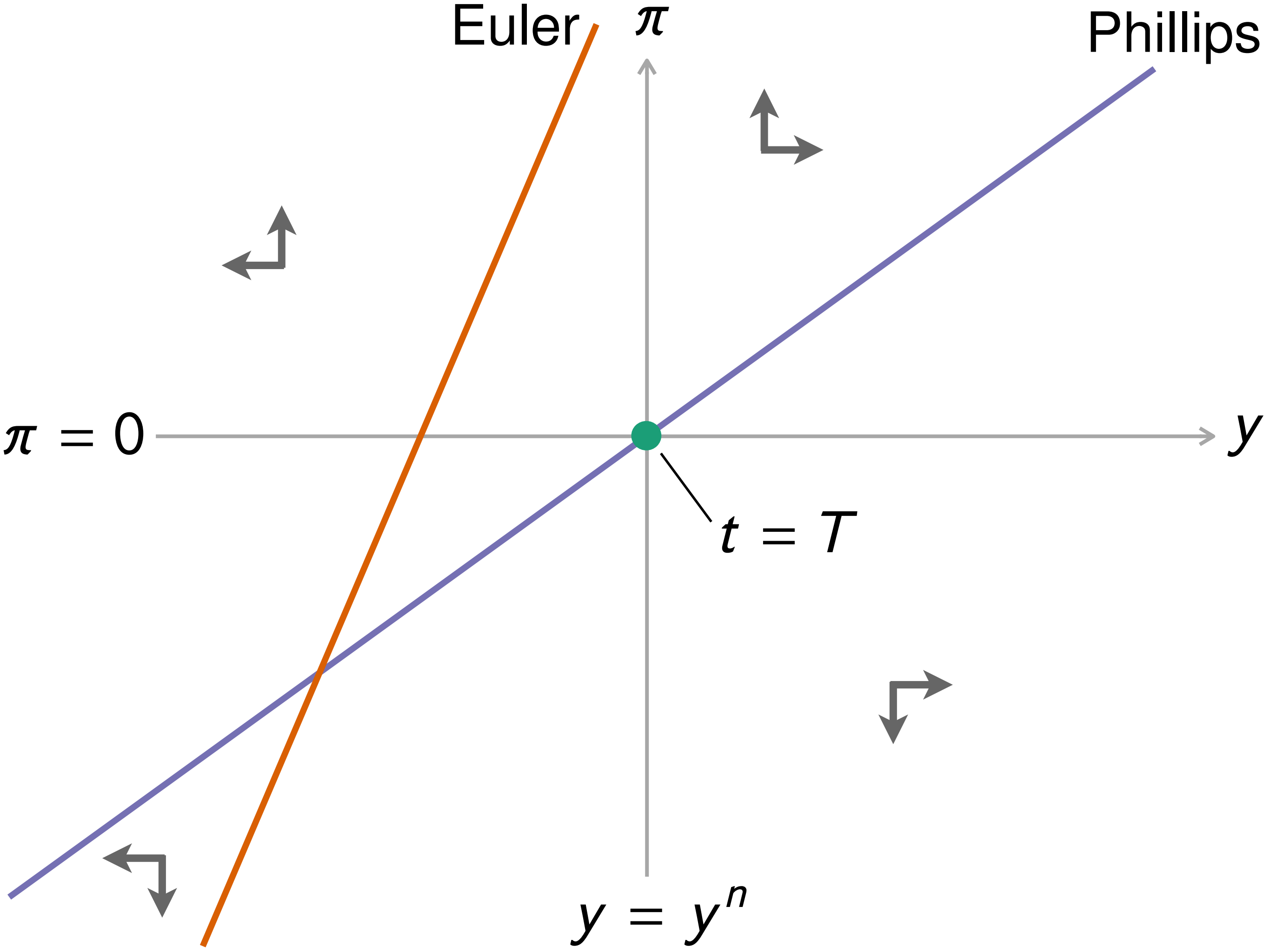


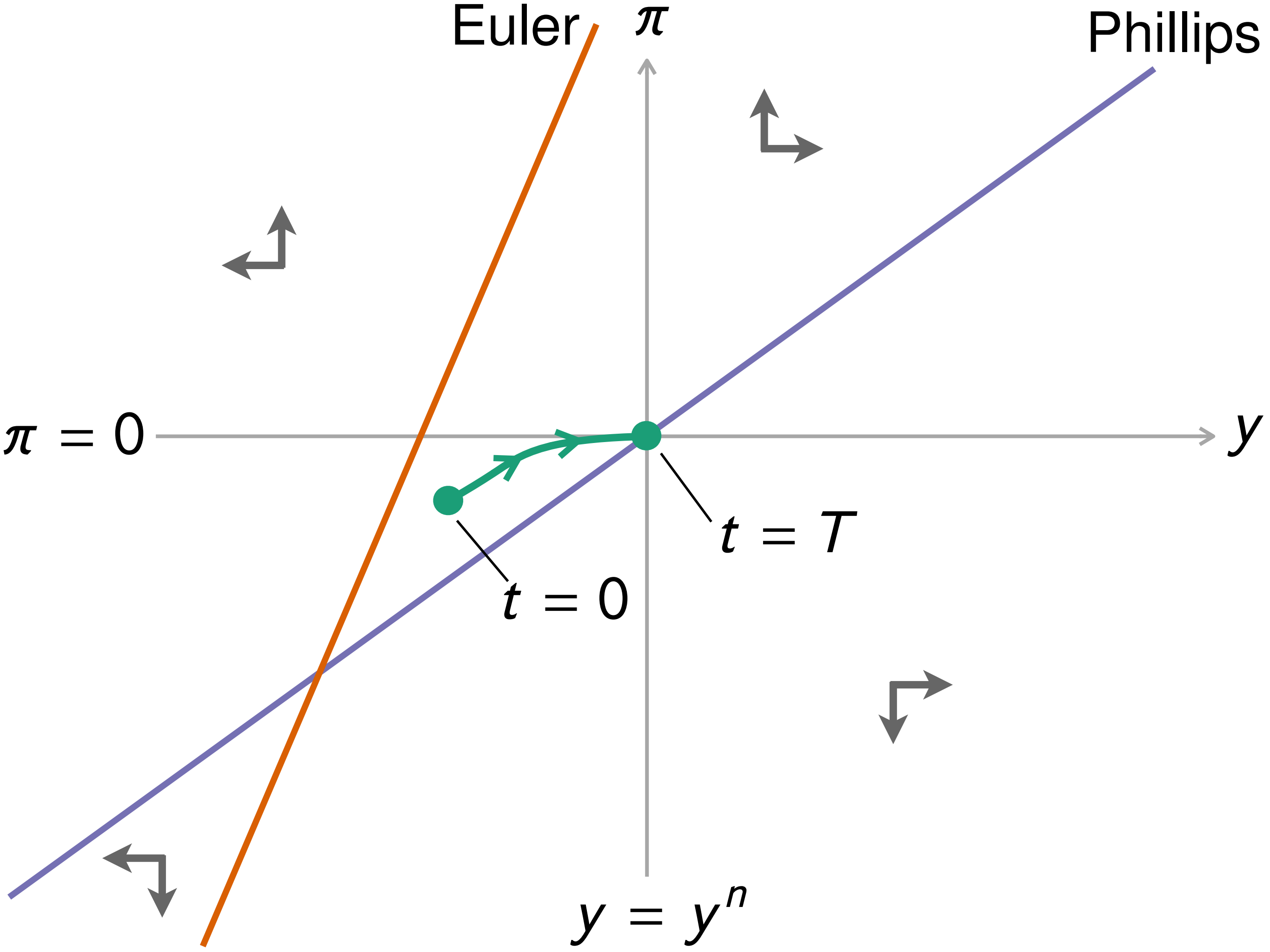


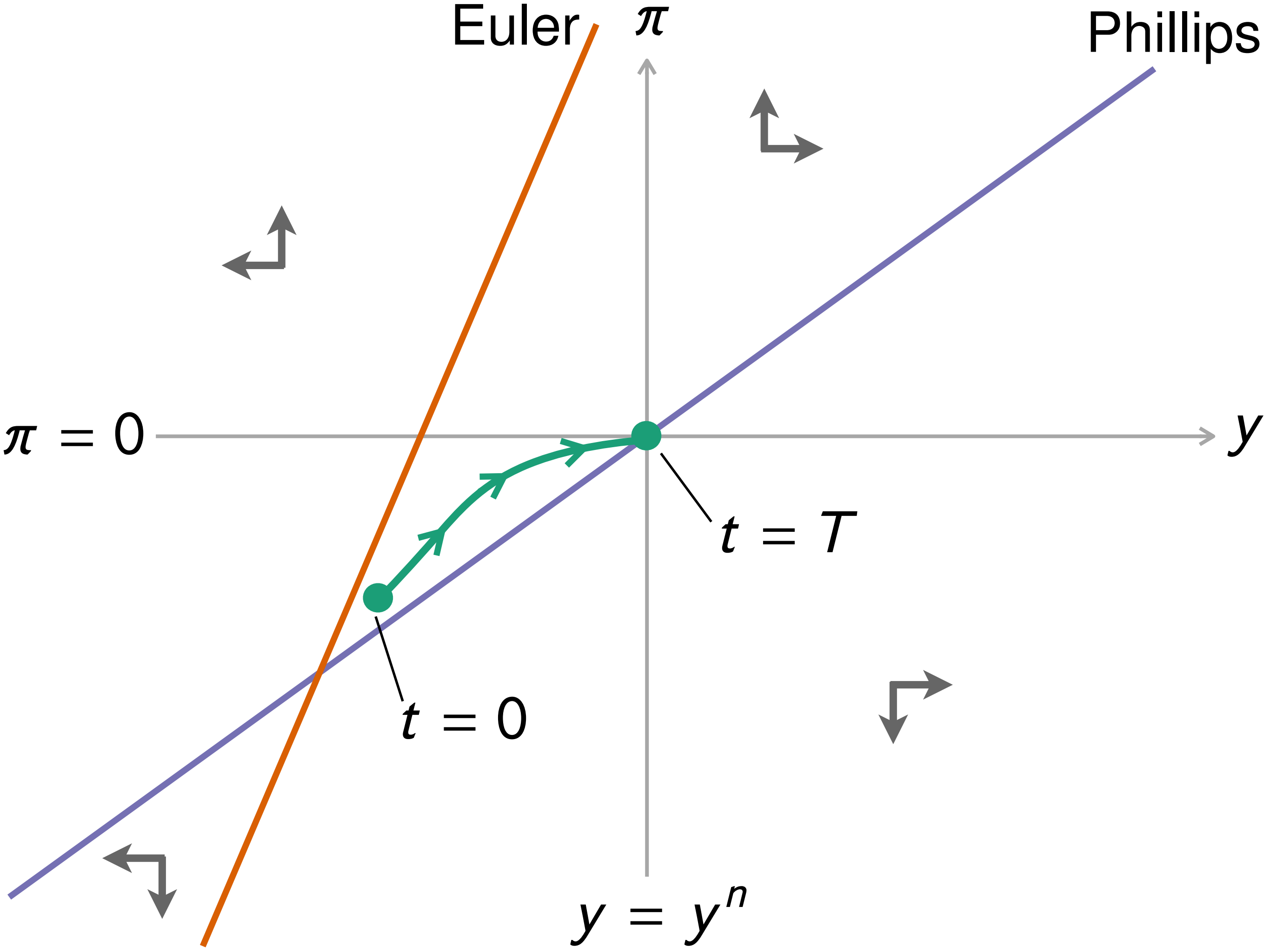












ZLB

forward guidance

back to natural  
steady state

- $r^n < 0$

- $i(\pi) = 0$

- $r^n > 0$

- $i(\pi) = 0$

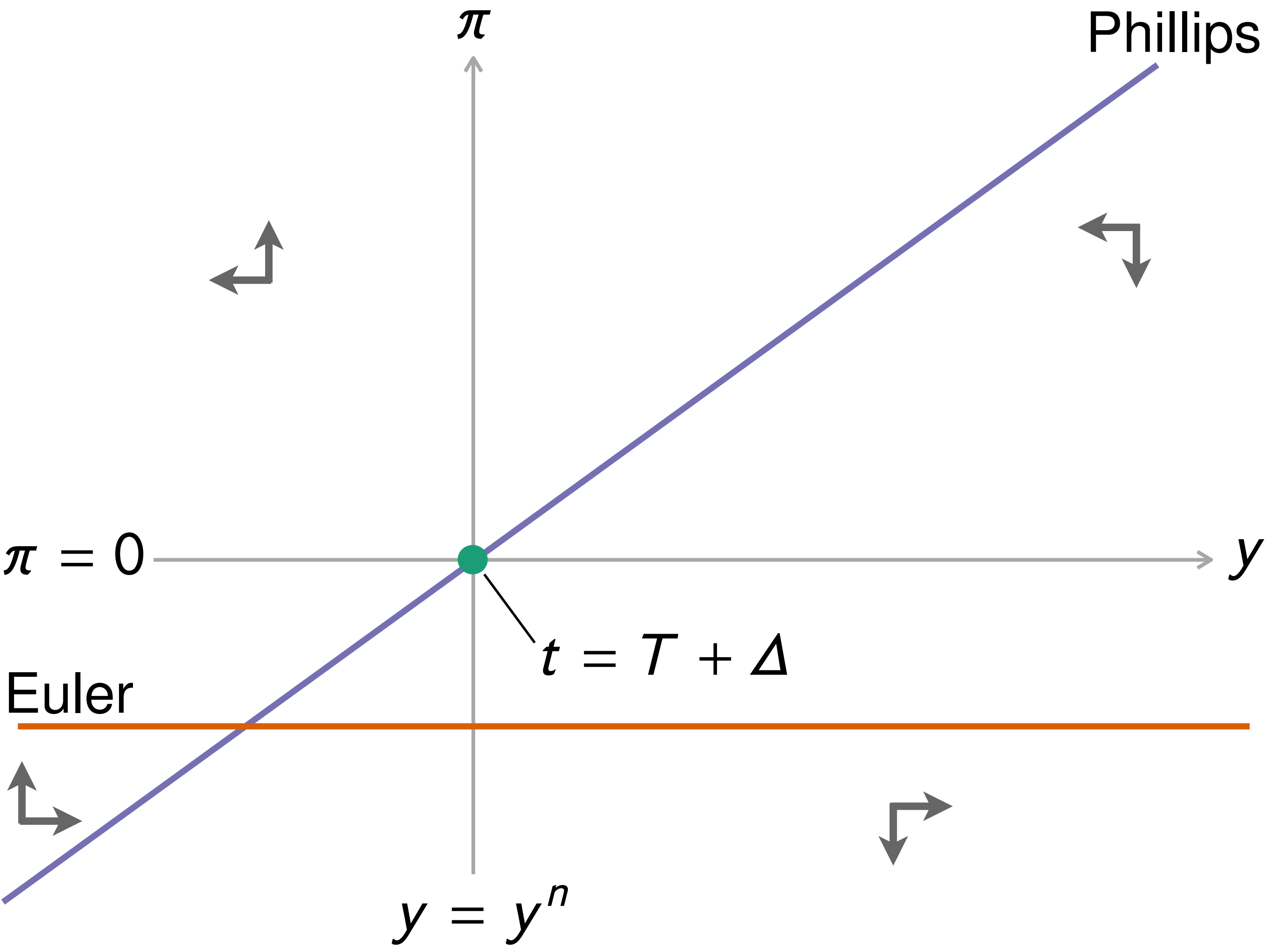
- $r^n > 0$

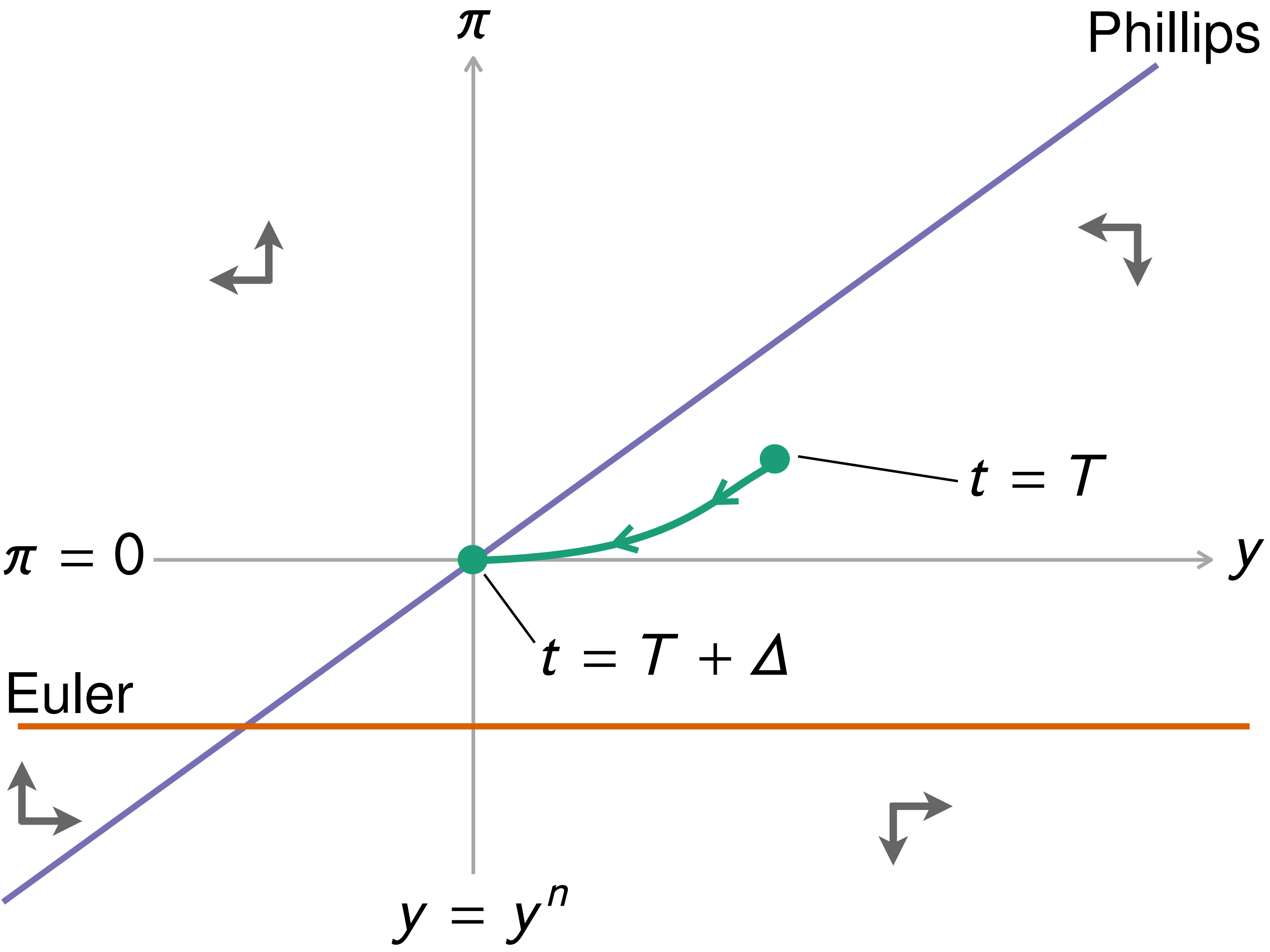
- $i(\pi) = r^n + \phi\pi$   
 $\phi > 1$

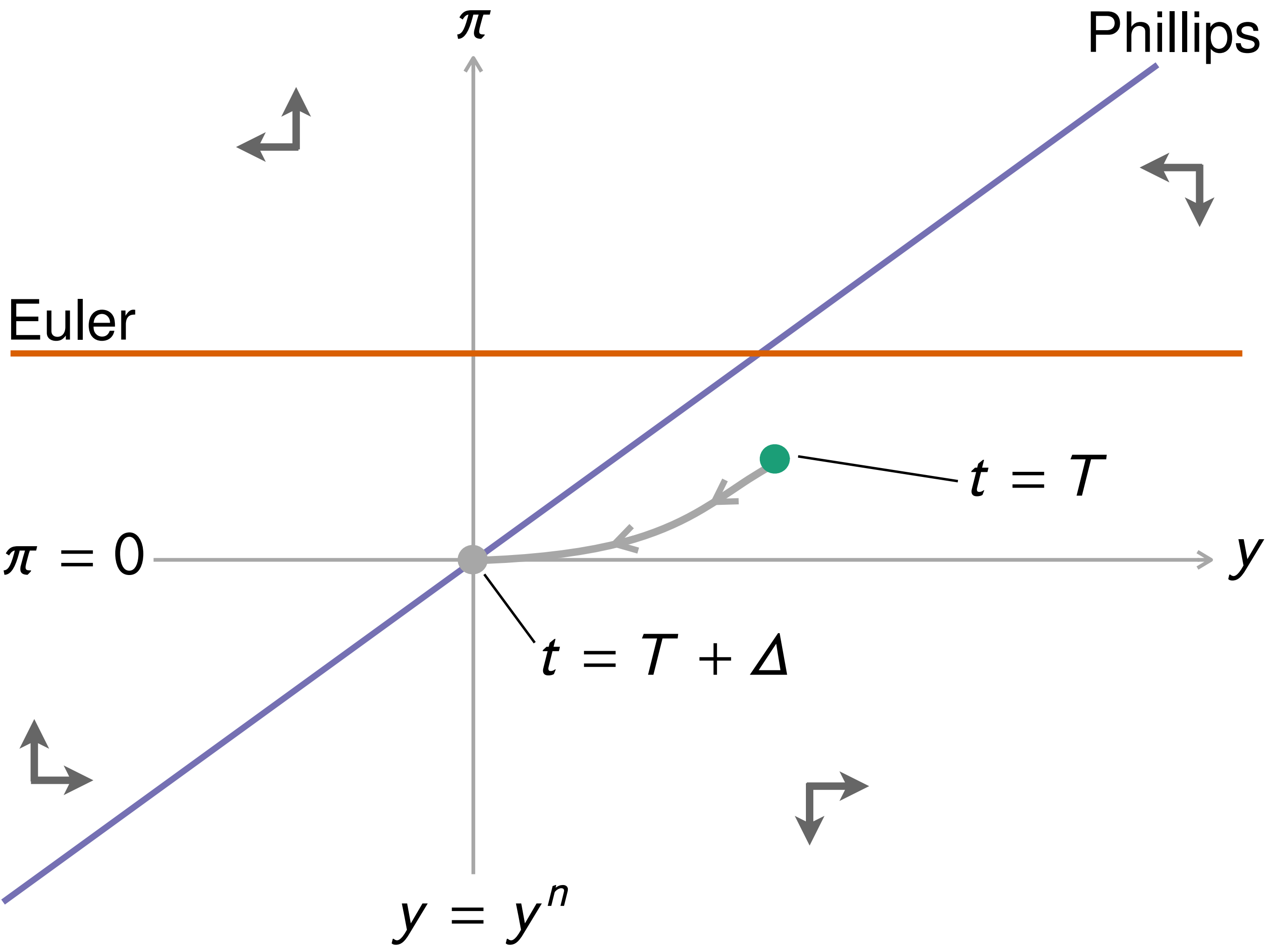
$t = 0$

$t = T$

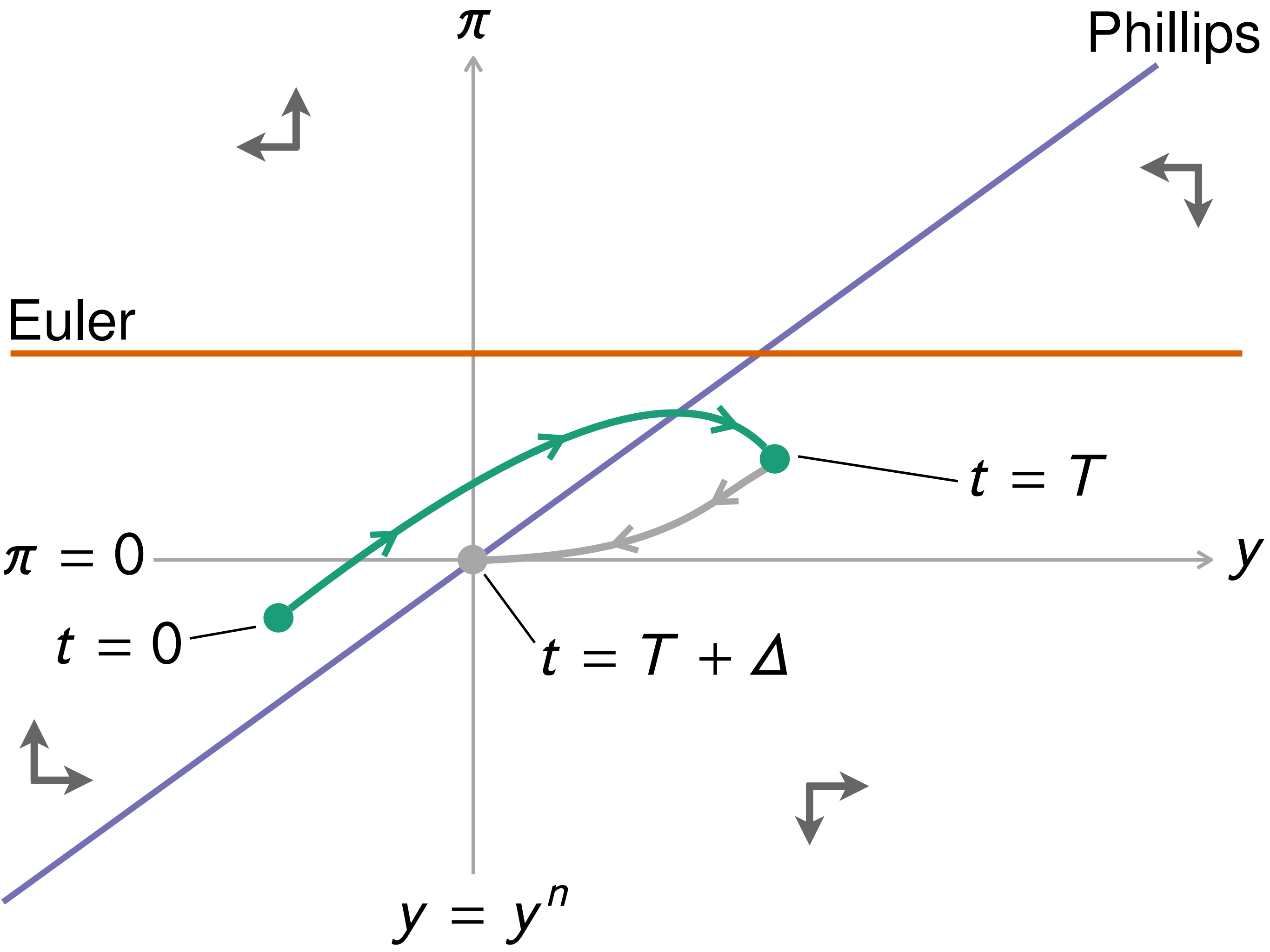
$t = T + \Delta$

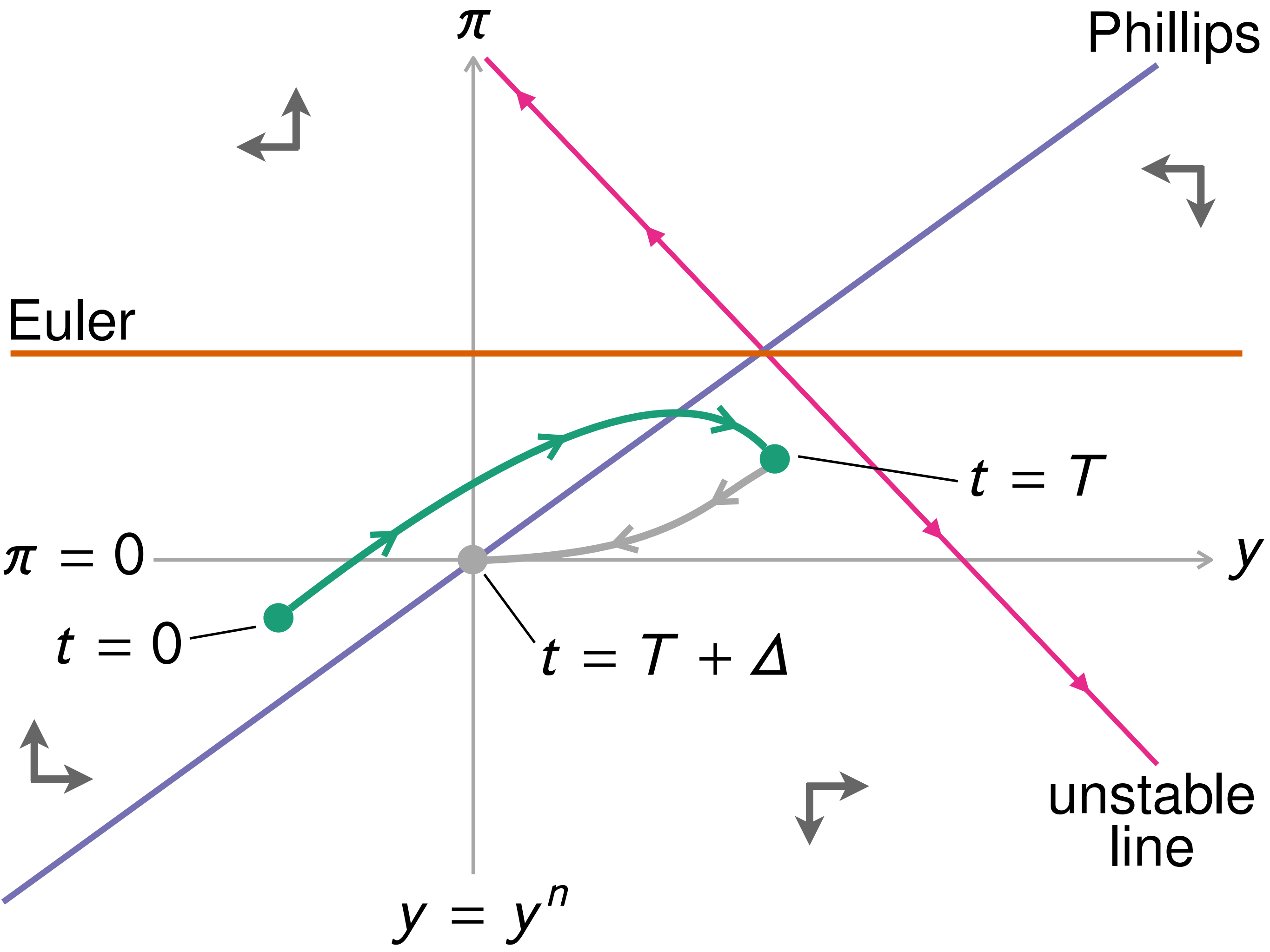


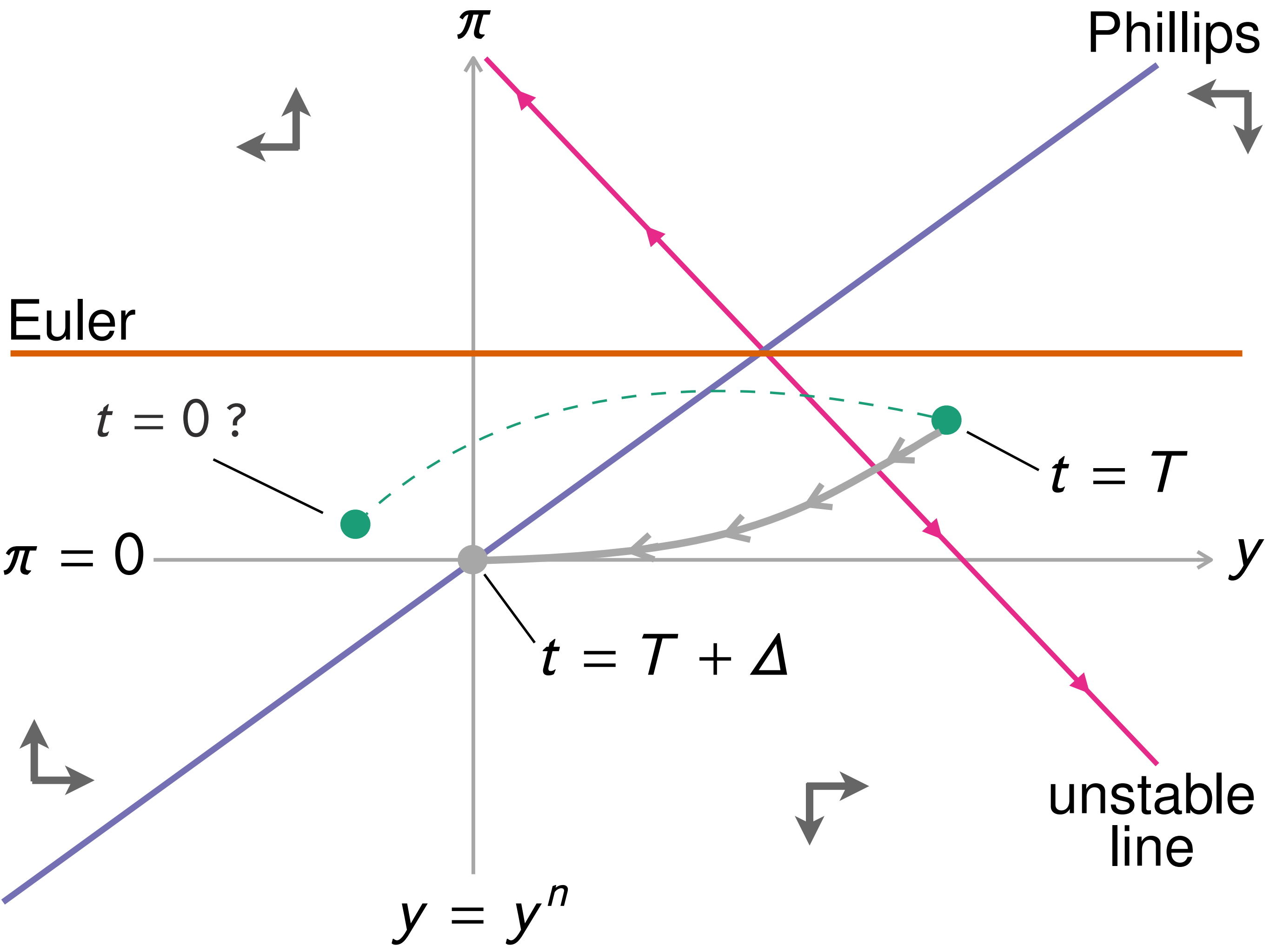


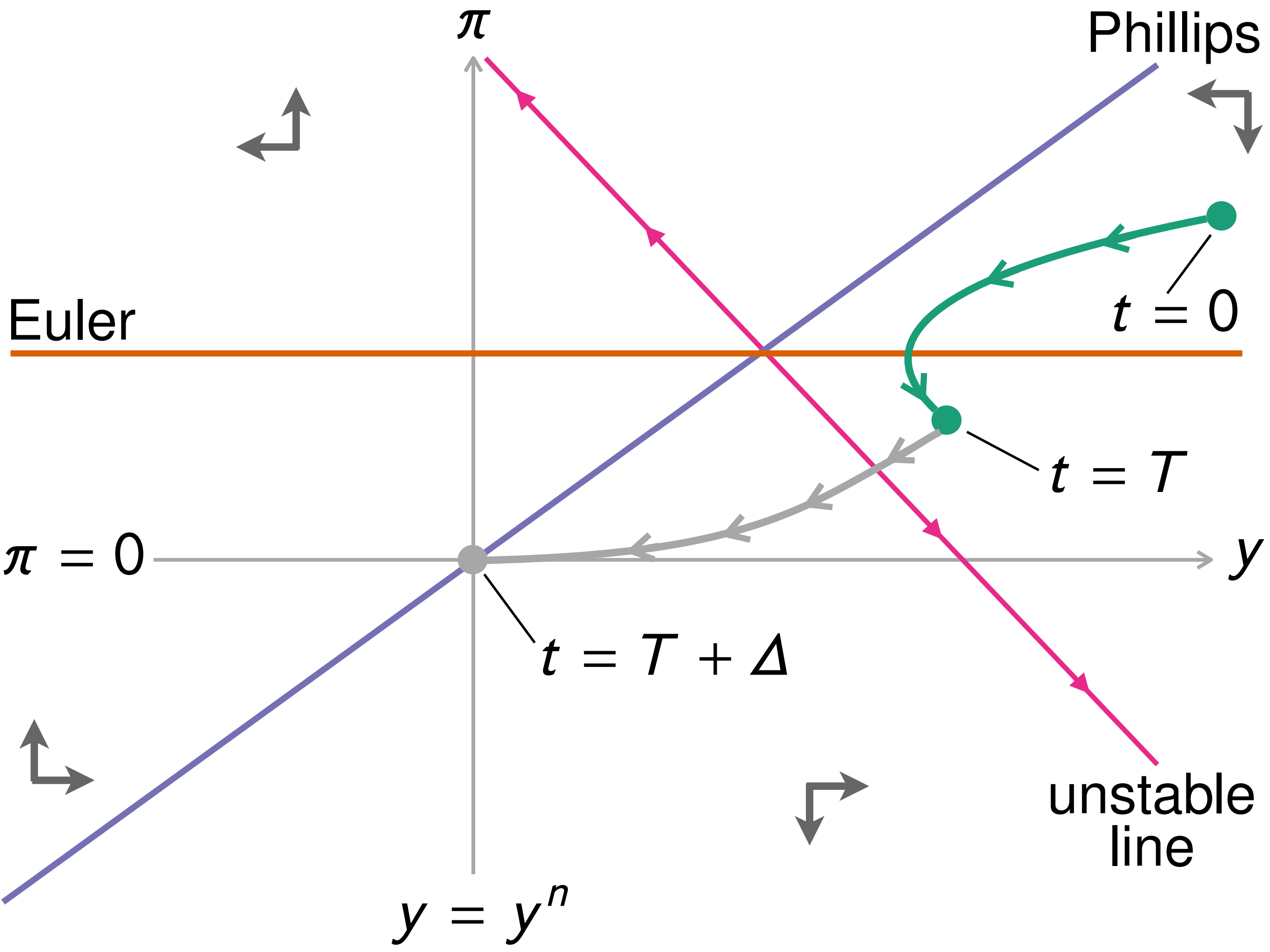


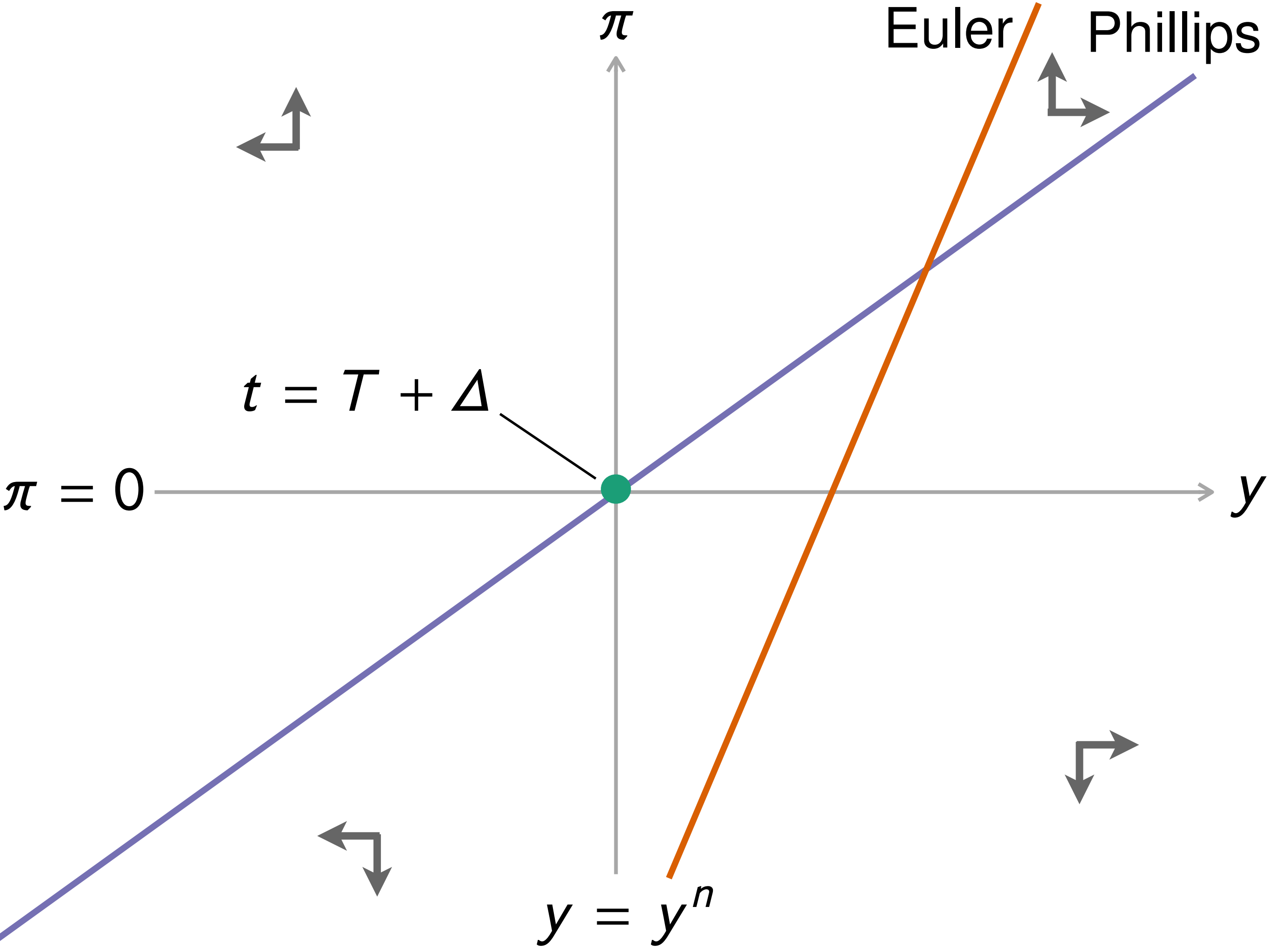


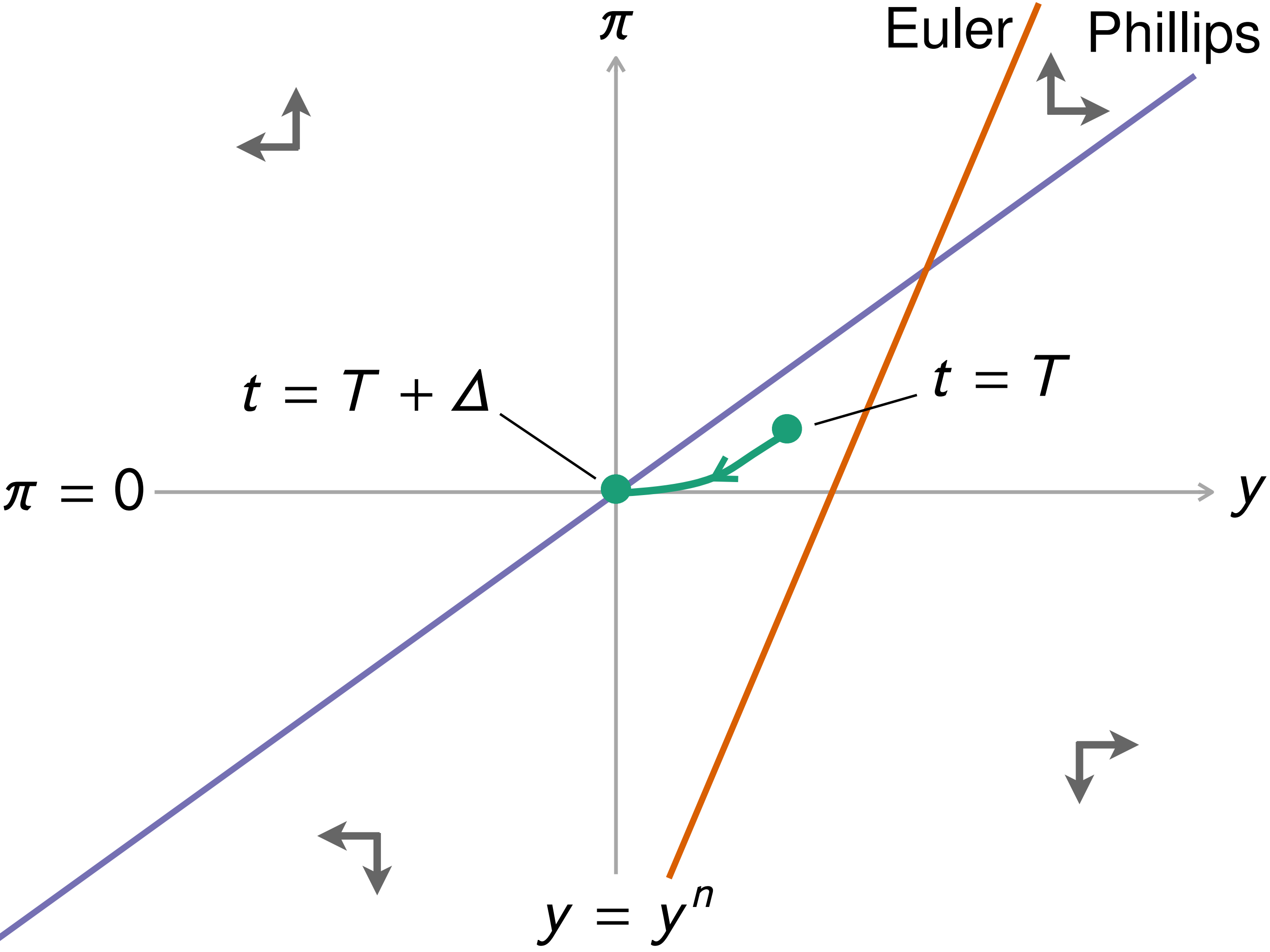


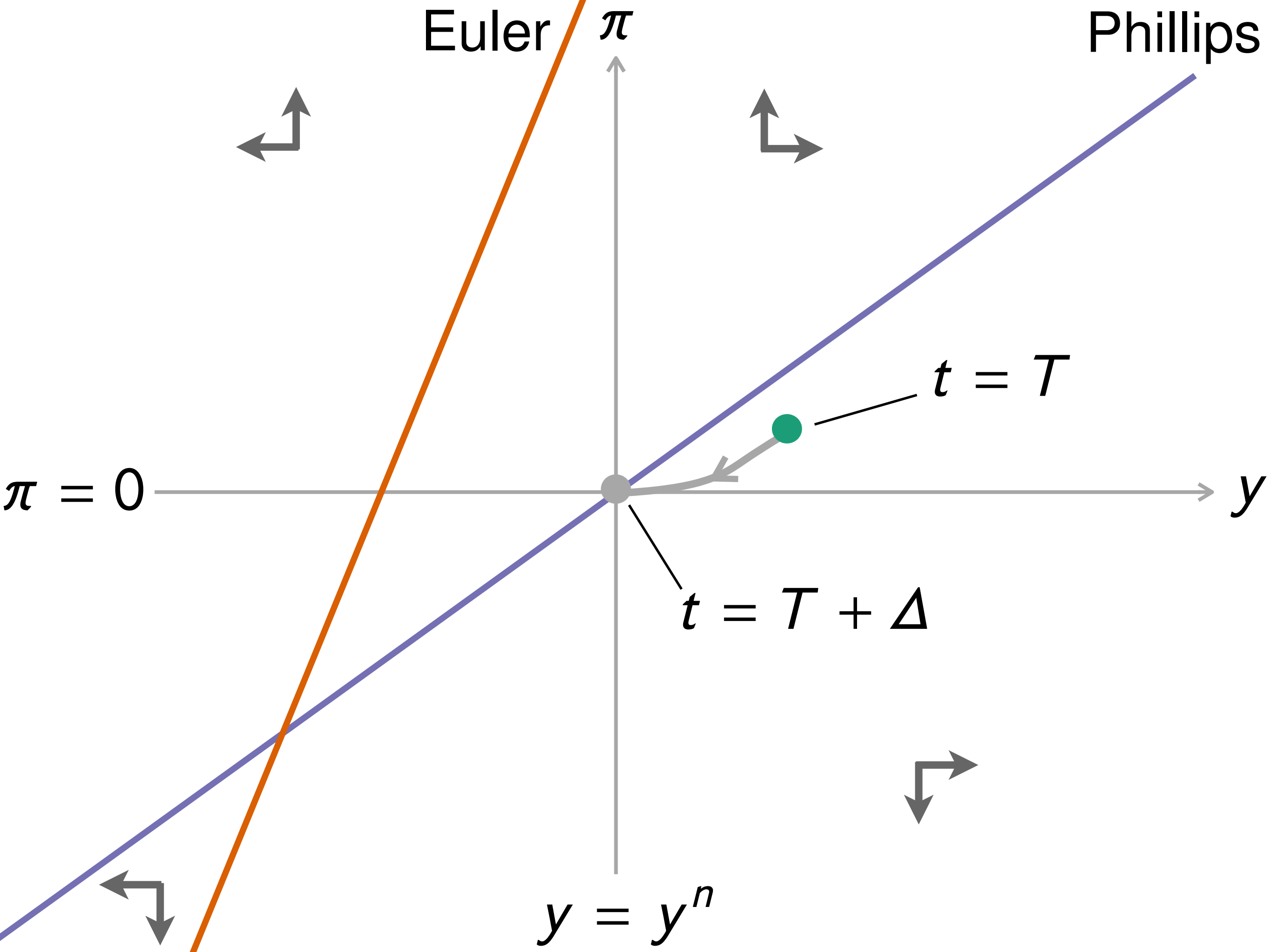


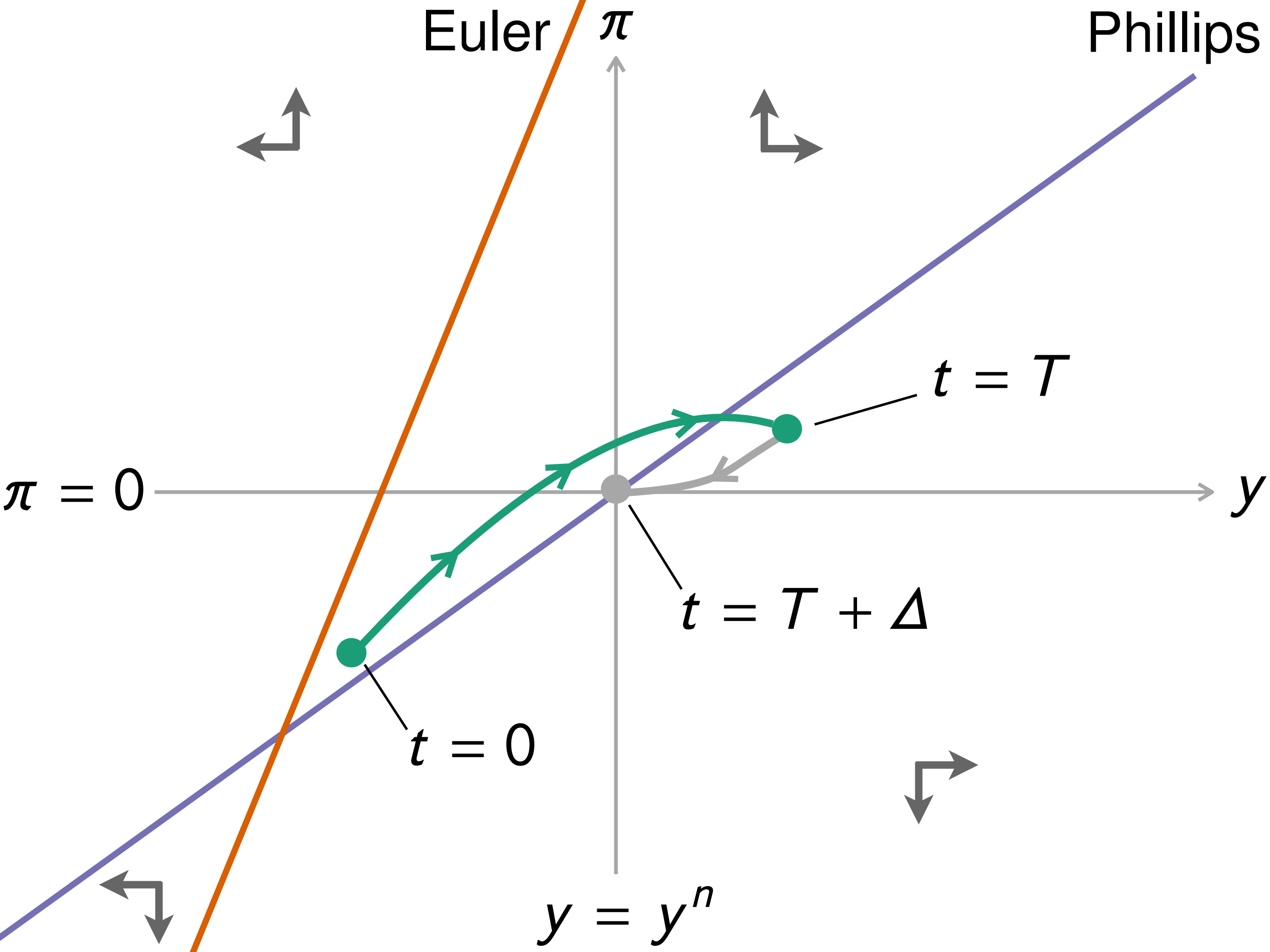




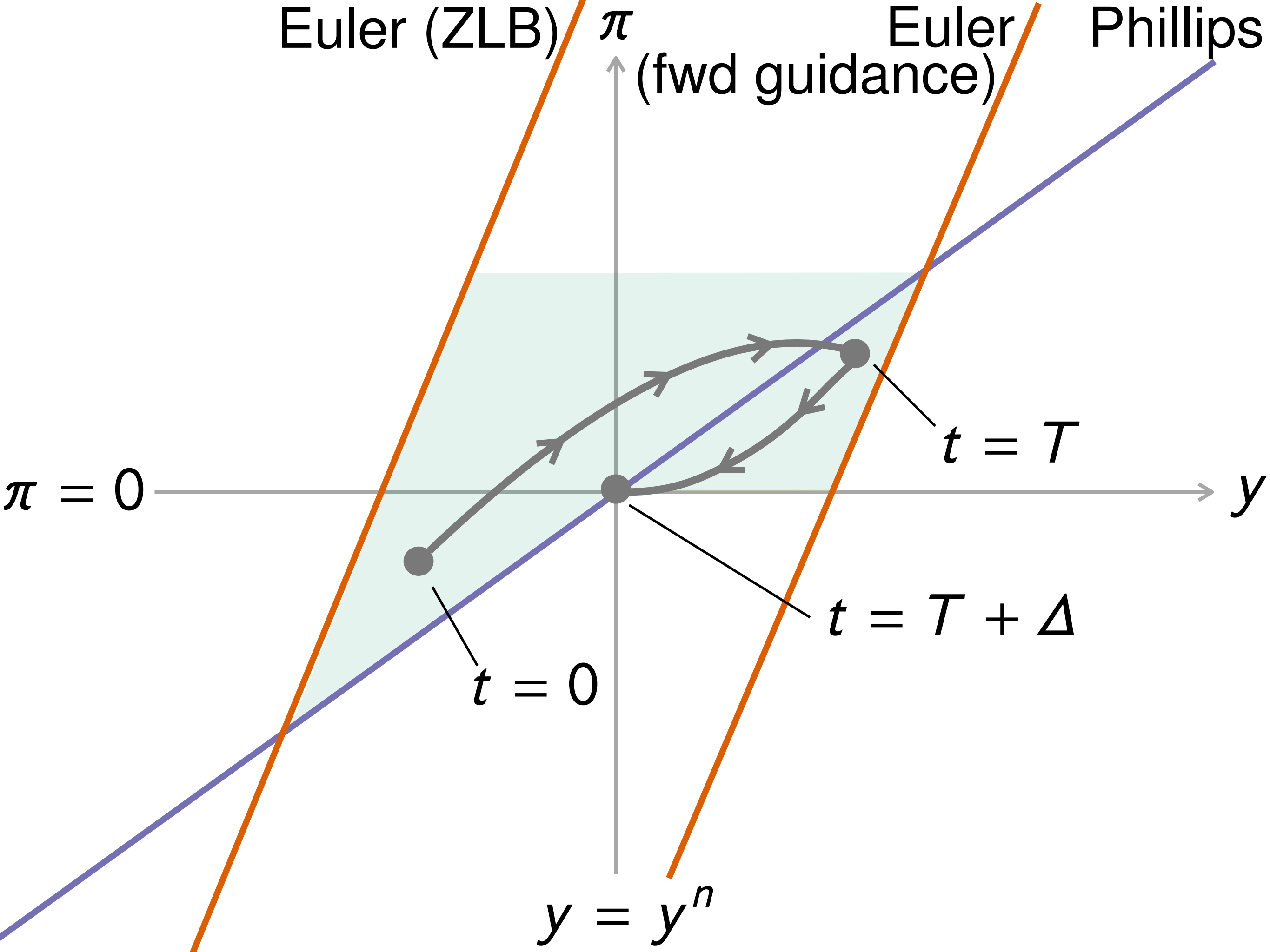












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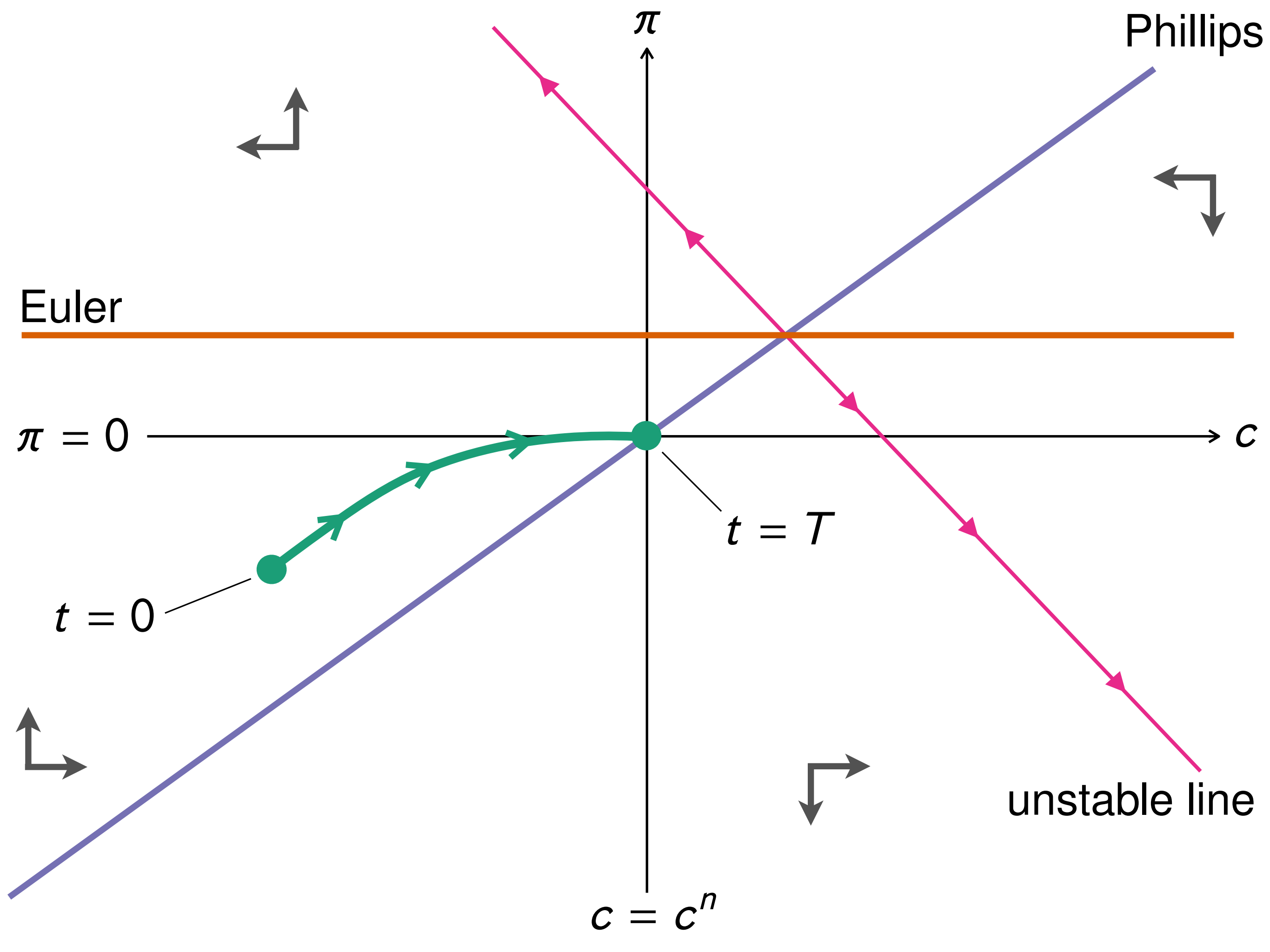
back to natural  
steady state

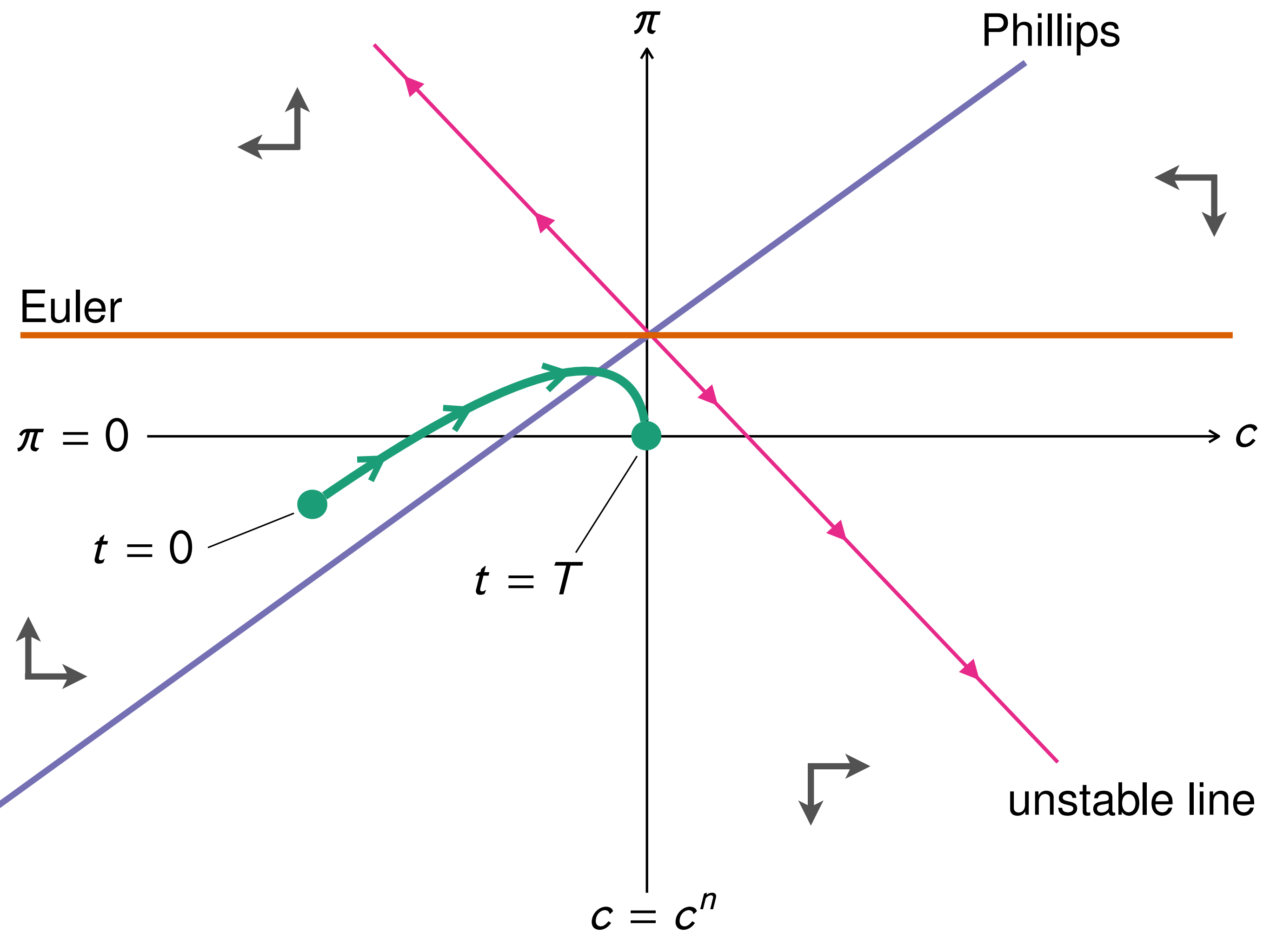
- $r^n < 0$
- $i(\pi) = 0$
- $g > 0$

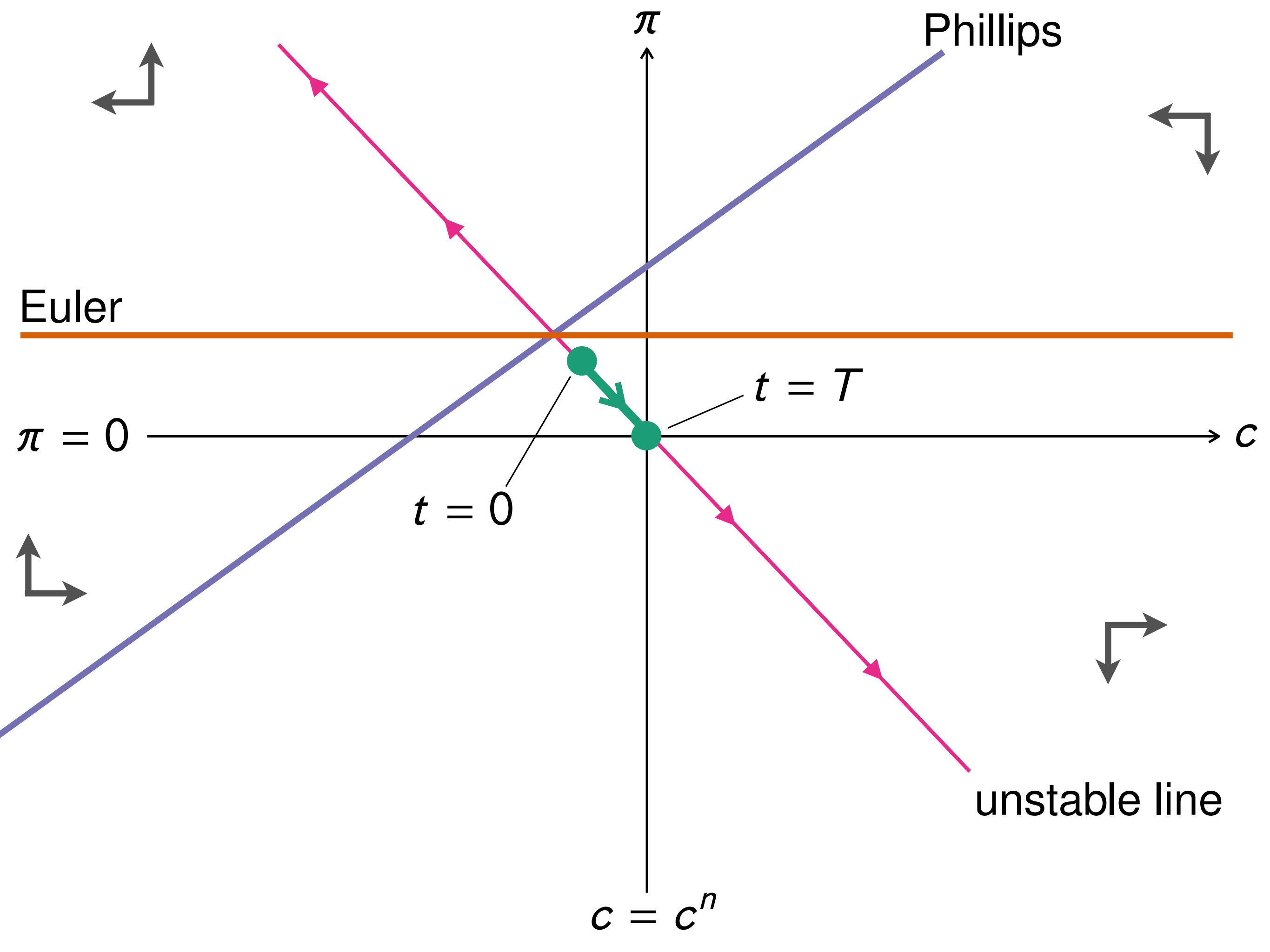
- $r^n > 0$
- $i(\pi) = r^n + \phi\pi$   
 $\phi > 1$
- $g = 0$

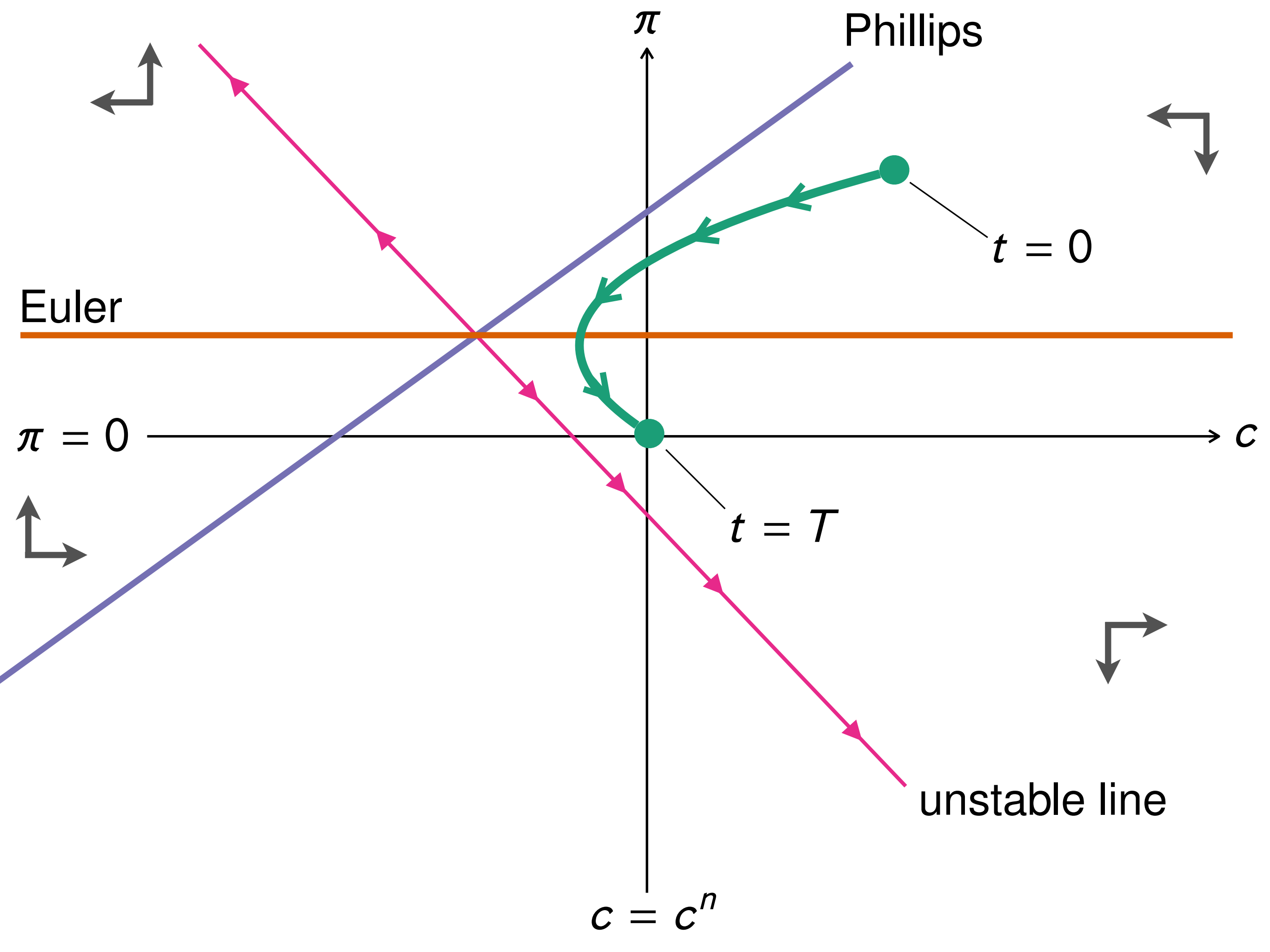
$t = 0$

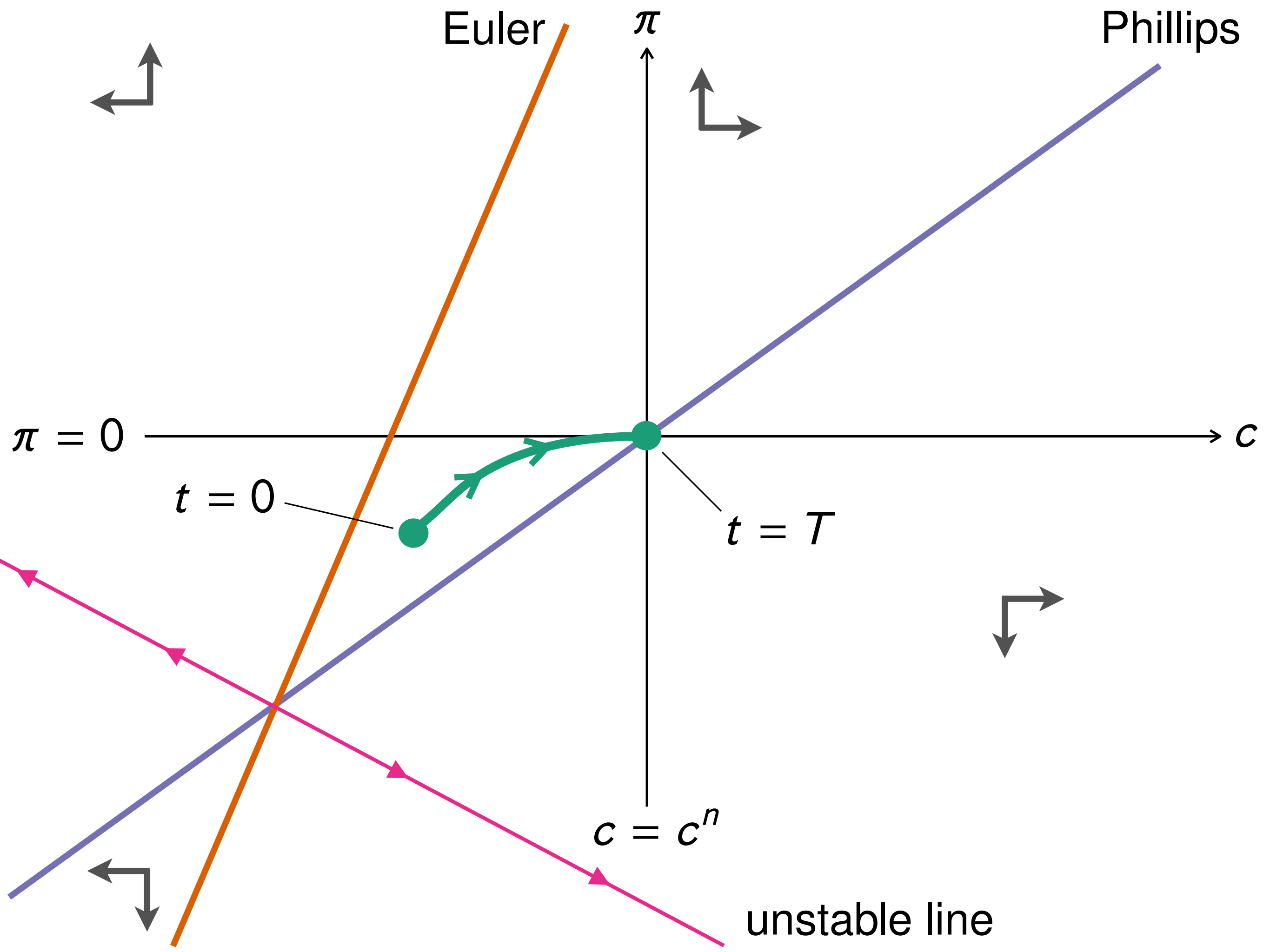
$t = T$

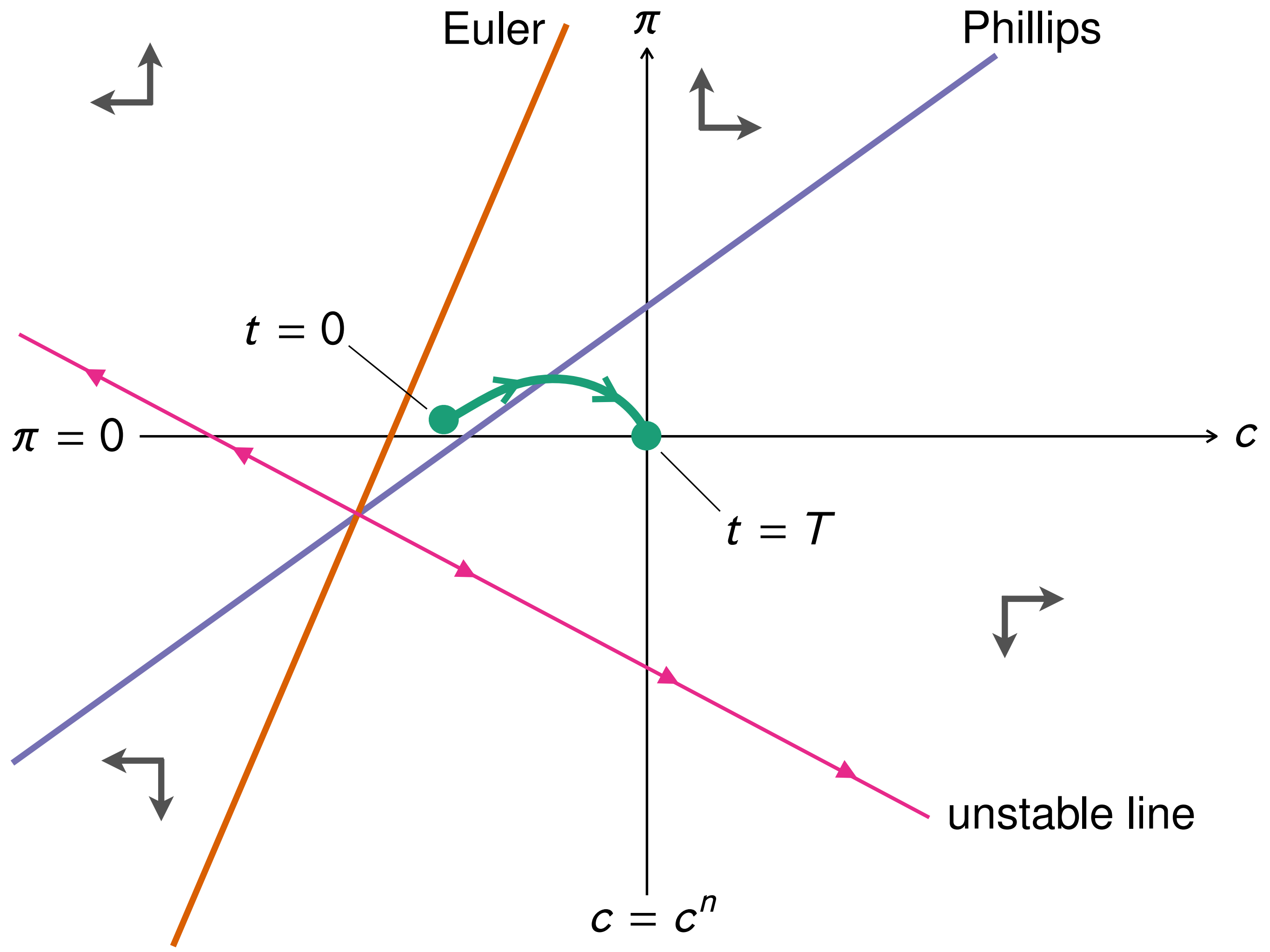




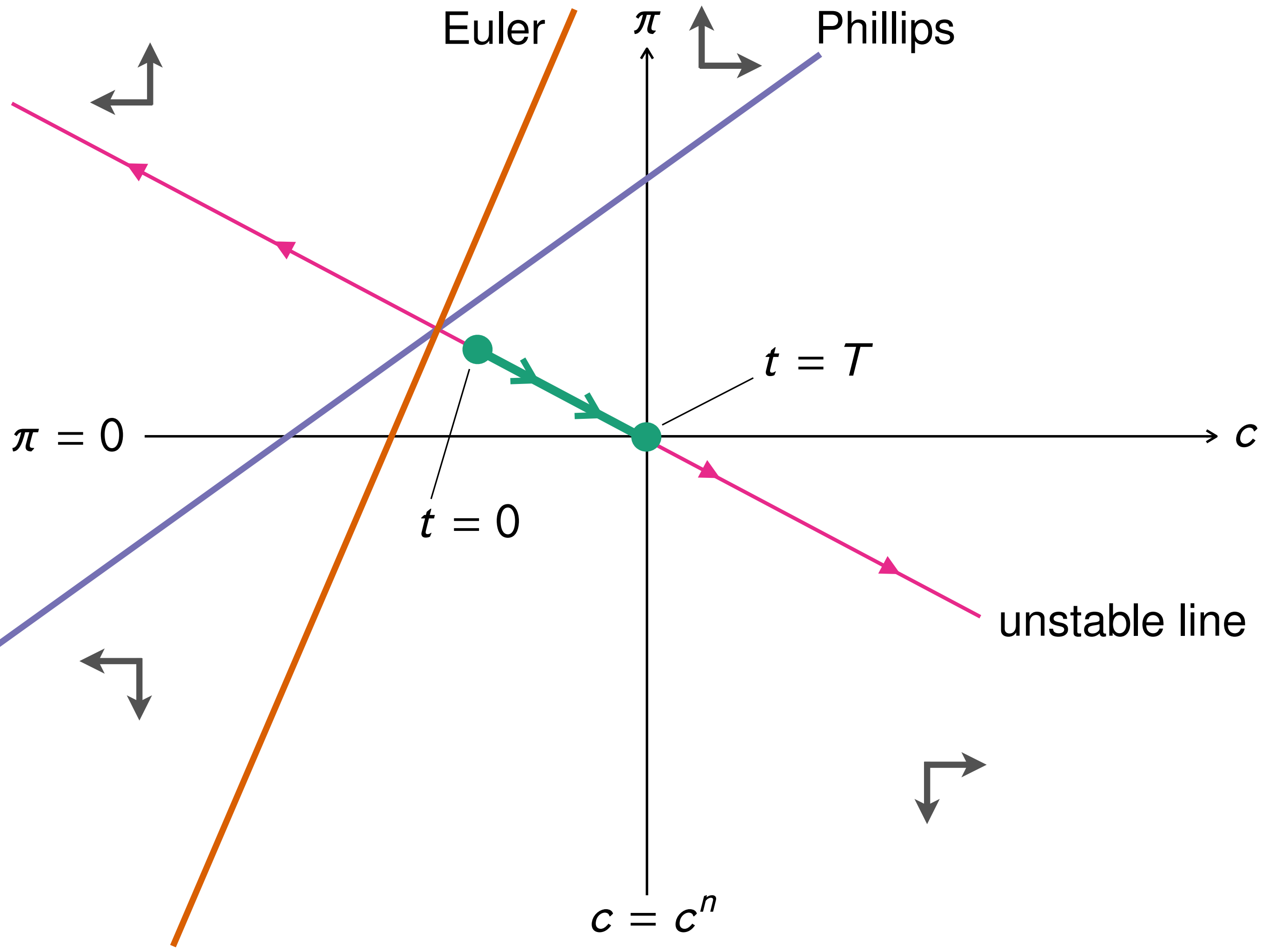


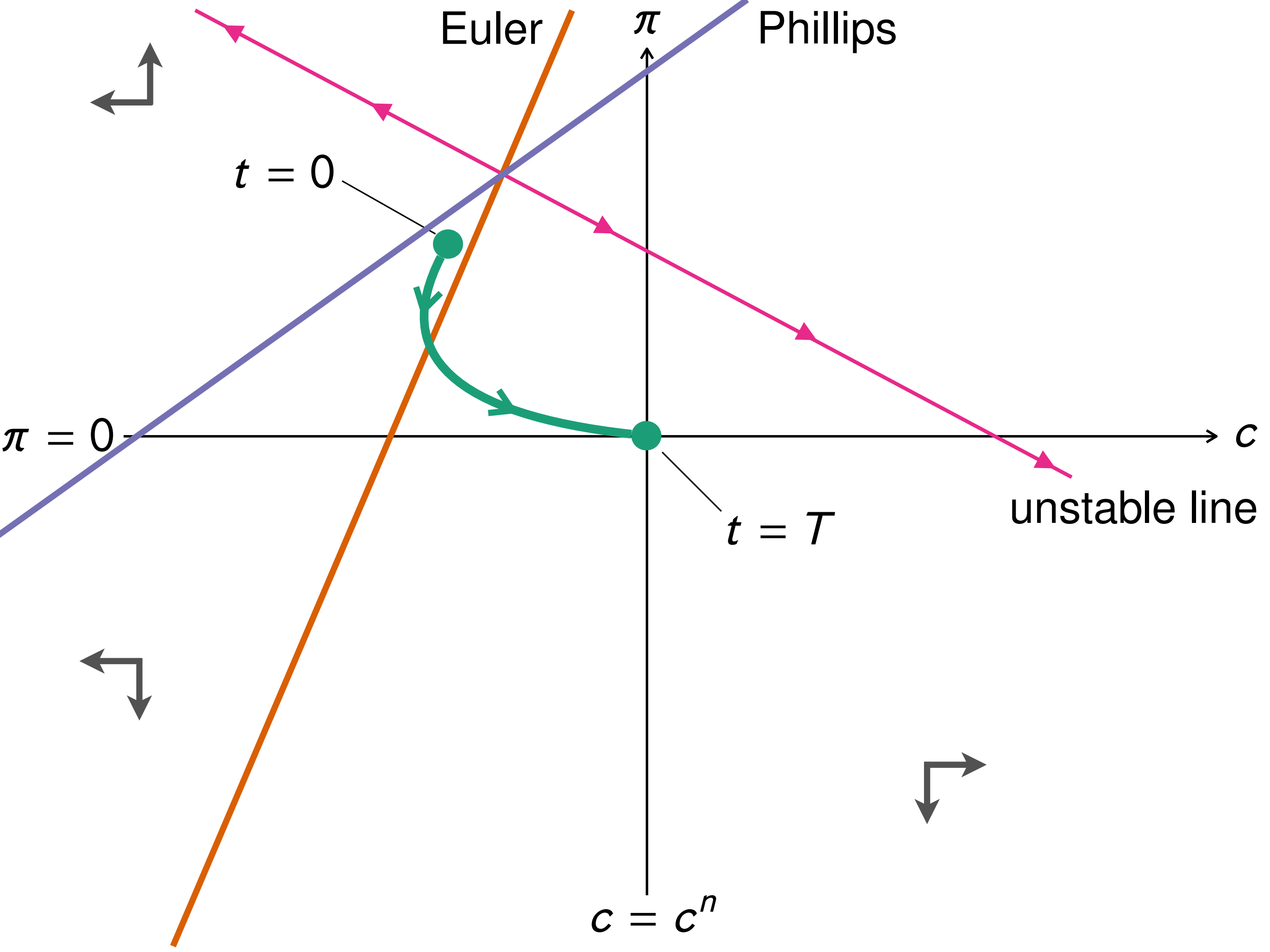


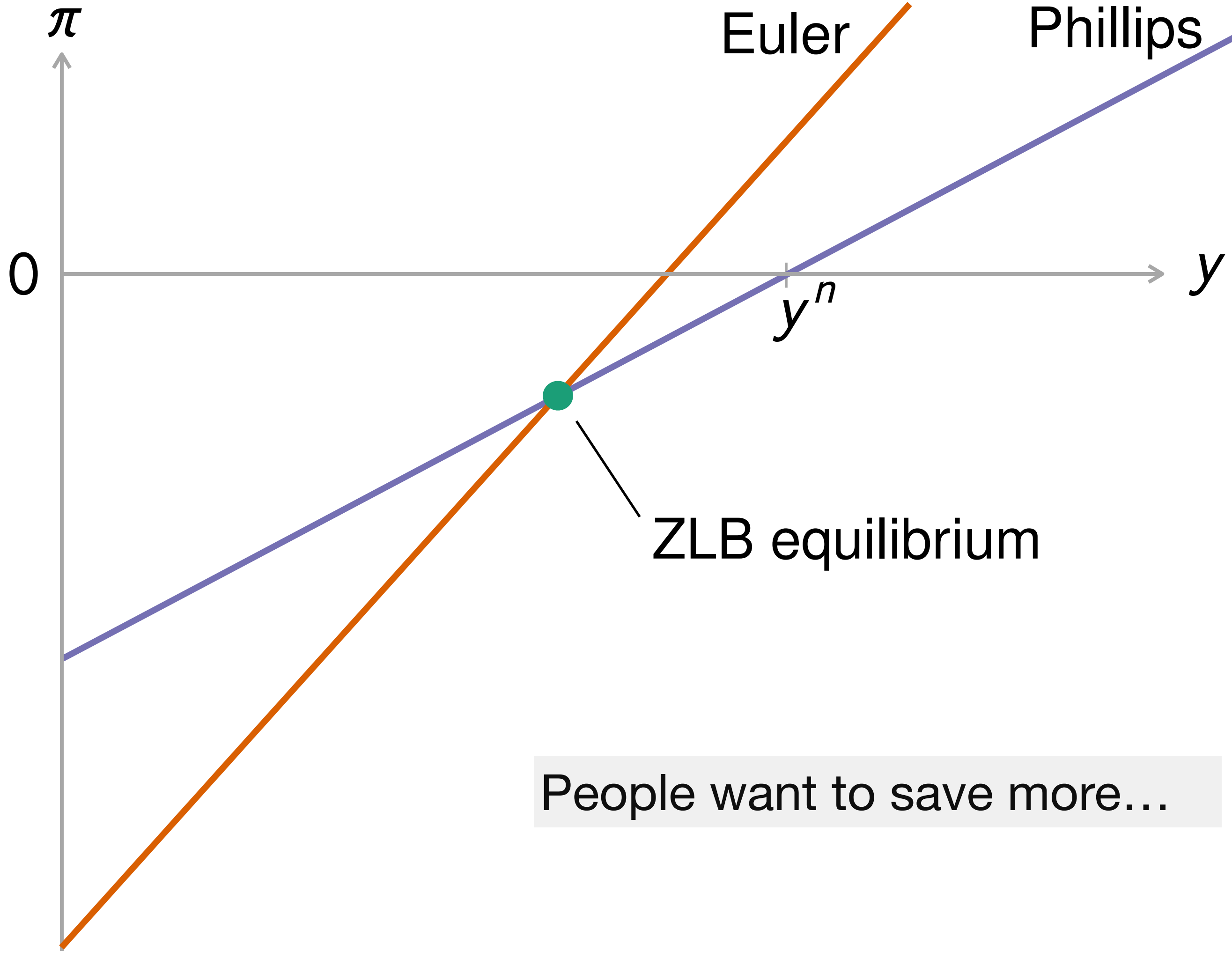


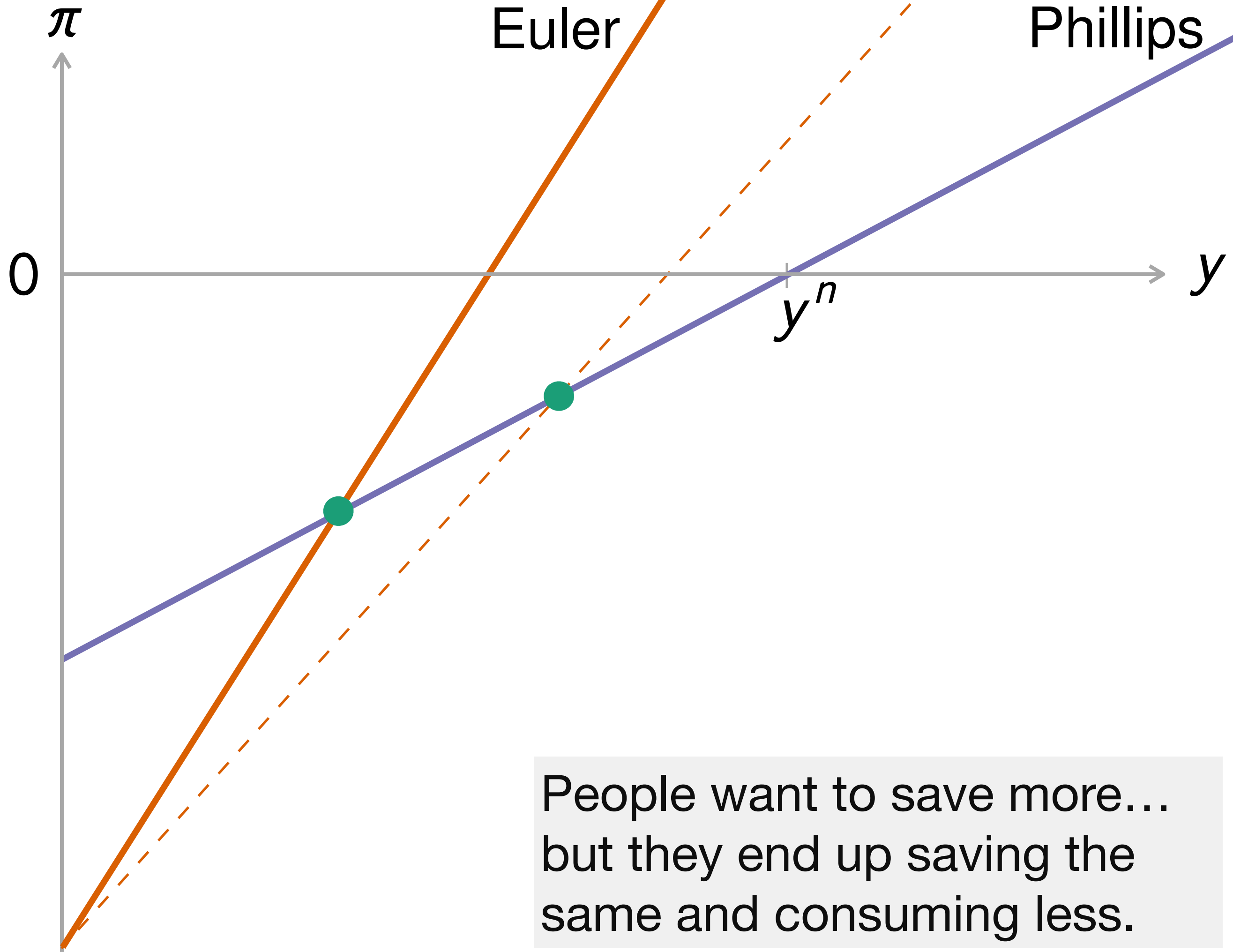


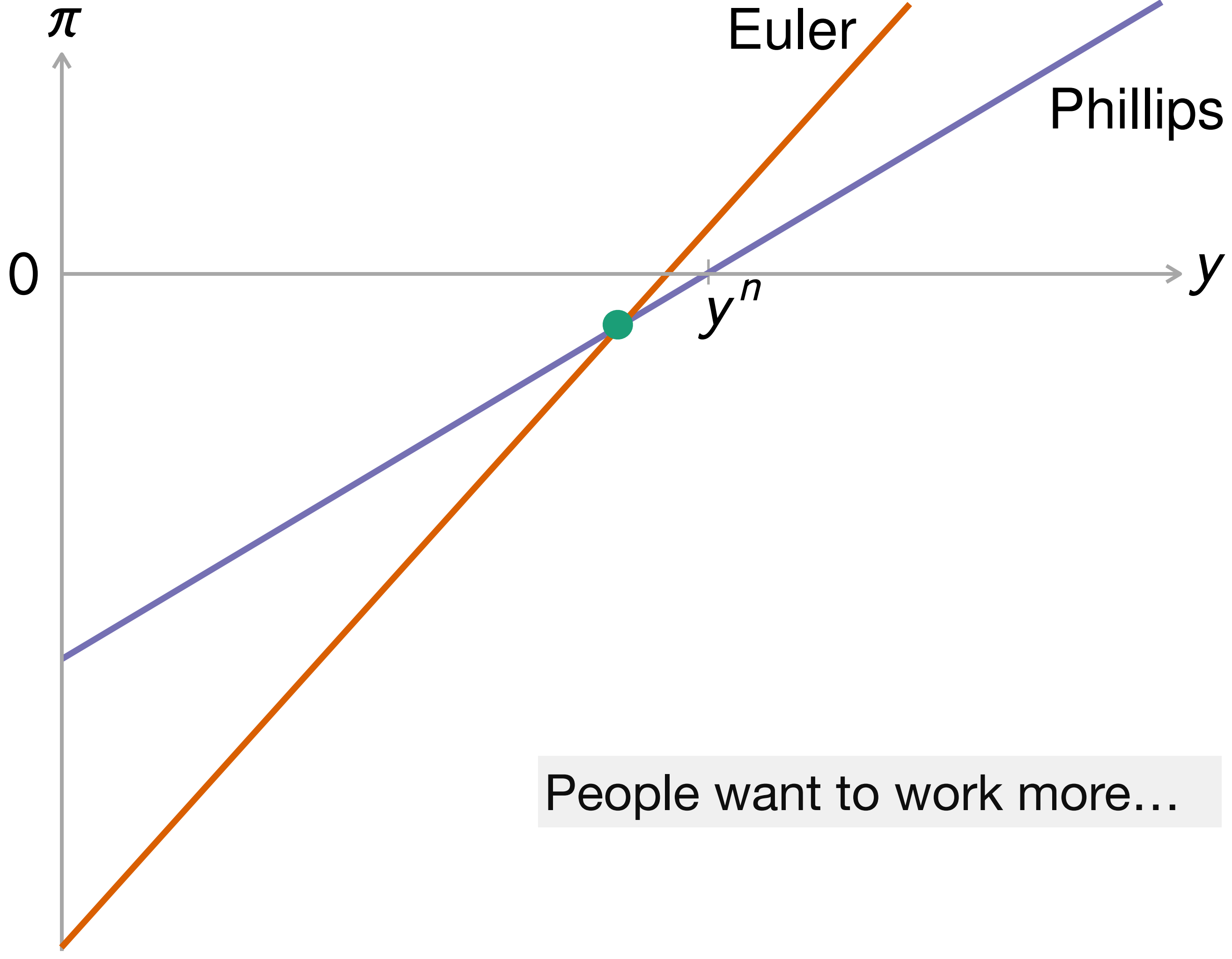


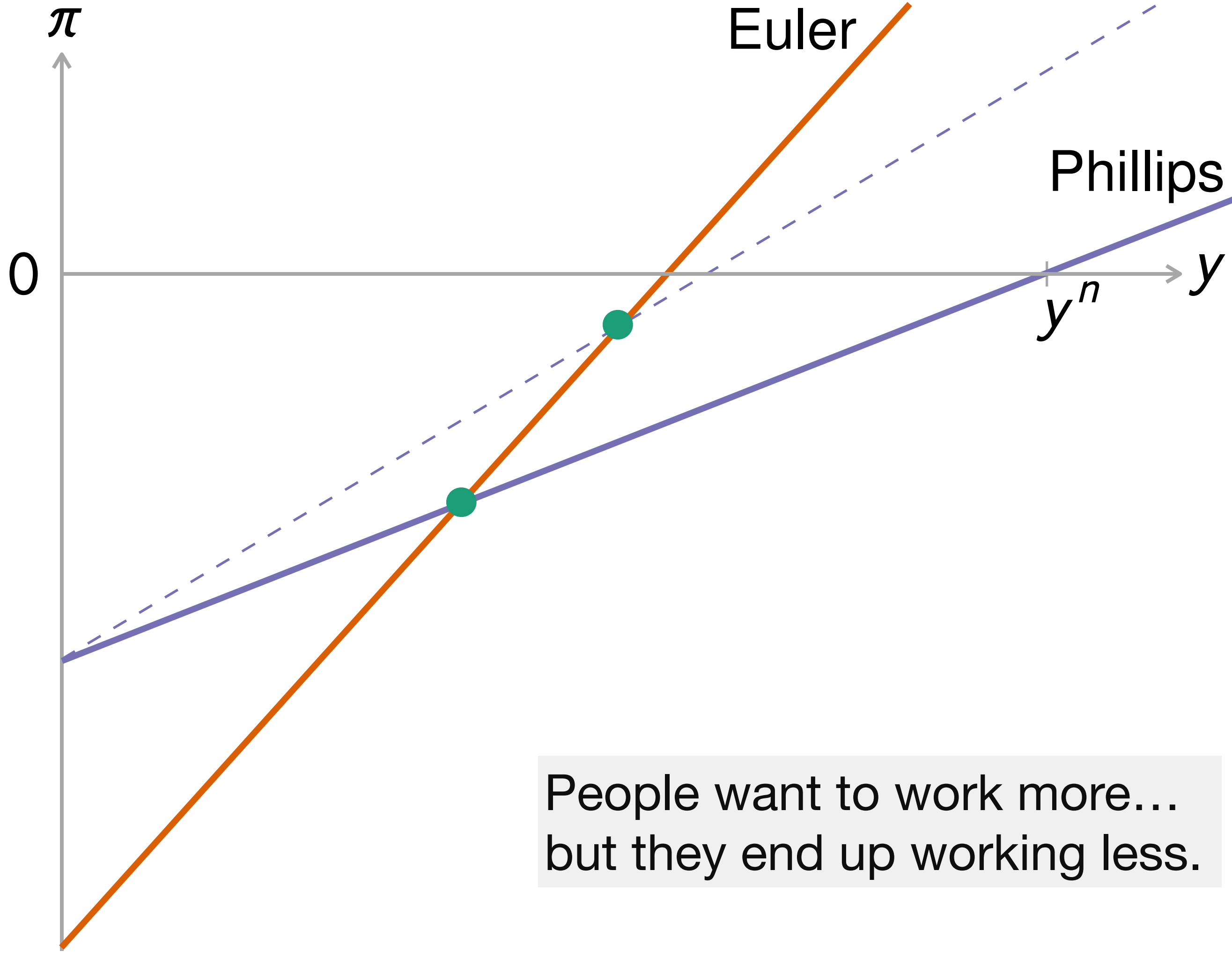












People want to work more...  
but they end up working less.

