Arbitrary gage function intuition

Let δ be an arbitrary gage function.

Our rescaled equation (ignoring coefficients) is:

In[83]:=
```
govEq = -t^2 + t^5 - ϵ^(1/3)
```

Out[83]=
$$-t^2 + t^5 - \epsilon^{1/3}$$

In[84]:=
```
gage = Expand[Collect[Expand[-t^2 + t^5 - ϵ^(1/3) /. t -> {t_o + δ_1 * t_1}], δ_1]] /. t_o → 0
```

Out[84]=
$$\left\{-\epsilon^{1/3} - t_1^2\,\delta_1^2 + t_1^5\,\delta_1^5\right\}$$

Considering the dominant terms and dividing by $\delta_1{}^2$:

In[88]:=
```
Expand[(-ϵ^(1/3) - t_1^2 δ_1^2) / δ_1^2]
```

Out[88]=
$$-t_1^2 - \frac{\epsilon^{1/3}}{\delta_1^2}$$

Least degenerative case

$\frac{\epsilon^{1/3}}{\delta_1^2}=1$

$\delta_1 = \epsilon^{1/6}$