

phylogenetic tree

false

true

Node X
is root

$$t'_X = t_X + a$$

$$r'_X = \frac{d_X}{t_P - t'_X}$$

$$r'_L = \frac{d_L}{t'_X - t_L}$$

$$r'_R = \frac{d_R}{t'_X - t_R}$$

Simple Distance

$$t'_X = t_X + a$$

$$r'_L = \frac{d_L}{t'_X - t_L} \quad r'_R = \frac{d_R}{t'_X - t_R}$$

Small Pulley

$$d'_L = d_L + b$$

$$r'_L = \frac{d'_L}{t'_X - t_R} \quad r'_R = \frac{D - d'_L}{t'_X - t_R}$$

Big Pulley

$$t'_X = t_X + a$$

false

Tree shape is
symmetric

true

0.5

Exchange(H1,R)

0.5

Exchange(H2,R)

0.5

Exchange(H3,L)

0.5

Exchange(H4,L)

false

$t'_O > \max\{t_{G1}, t_{G2}\}$
or $t_{G1} = t_{G2}$

true

0.5

Exchange (G2, Y)

0.5

Exchange (G1, Y)

Exchange(the older child of X, Y)